Textile World

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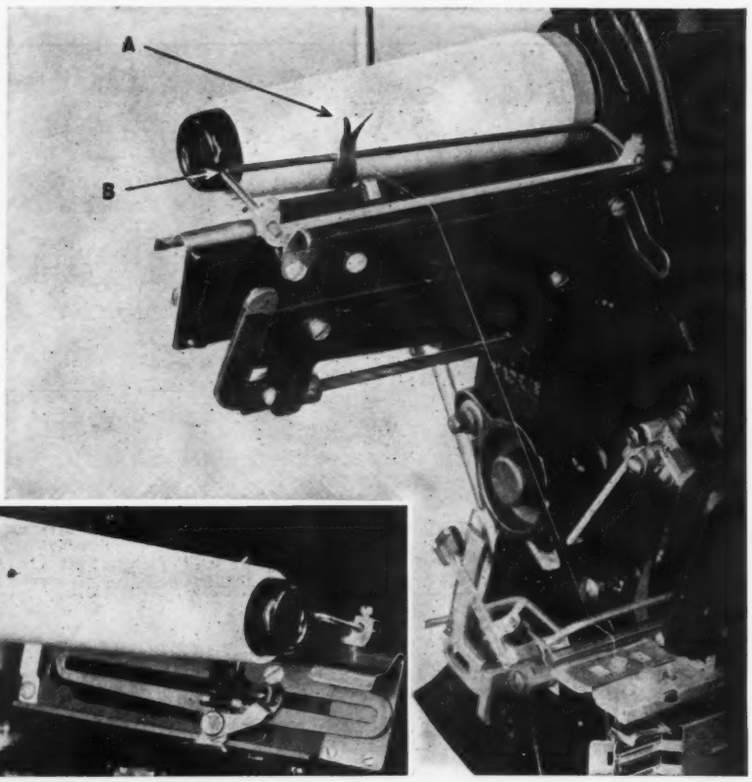
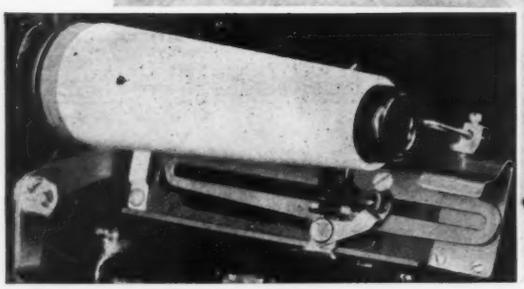
THIS IS NO. 14 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation





NEW PINEAPPLE CONE ATTACHMENT

(Patent No. 2,154,847)

The new Pineapple Cone Attachment for the No. 50 Leesona Winder, with the new Traverse Frame Back, is light in weight and greatly simplified in design.

Self-Aligning Pressure Bail

The Adjustable Pressure Bail (B), pivotted from the center of the Traverse Frame Back, is self-aligning with the taper of the cone. An adjustment makes it possible to wind 3°30′ or 5°57′ cones without changing the Traverse Frame Back. It is only necessary to change the Cone Holder when changing tapers.

It is possible to wind softer packages, because the pressure, usually concentrated at the thread guide, is now distributed over the full length of the traverse. Soft packages can be wound having a densometer reading of 40 points or less; by adding tension and pressure harder packages can be produced having a reading of 60 or 65 points.

Slotted Thread Guide

The yarn passes through the Thread Guide (A) over the Bail and then onto the cone. As the Guide tips from the vertical to build the taper on nose and base of cone, the yarn assumes a higher position in the long narrow slot of the Guide. This movement of the Thread Guide distributes the wear in the slot over a wide area and greatly lengthens the life of the Guide. Since the proper delivery point of the yarn is maintained by the Bail from one end of the cone to the other, no distortion near the ends of the cone is caused by the tipping of the Guide.

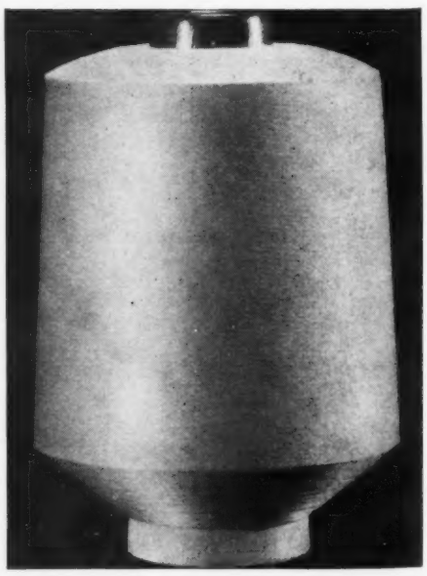
Speed

It is not necessary to change the speed or number of winds when changing to the new Pineapple Cone Attachment, although the best shape of packages will be produced with 2½ winds.

Shape of Cone

We received many requests from knitters and throwsters for a cone that would have more taper on the base than on the nose. We made a very careful investigation and found that there was a distinct preference for a Pineapple Cone with a 40° taper at the base and about 15° taper on the nose. A cone of this shape has definite advantages for knitting as well as for winding, so we have designed our attachment to build this shape of cone without adjustment.

Pineapple Cone — 3°30′ taper, 5″ cam, 2½ winds, 1250 R. P. M.



"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

Textile World

MAY, 1939

DOUGLAS G. WOOLF, *Editor*

This Time It Wasn't a Dream

ONCE we had a dream. We imagined we were attending a textile convention, at which a group of manufacturers got up, one after the other, and frankly faced the real problems of the industry in a series of short snappy talks, no one of which exceeded 20 minutes. We even thought we heard each one of the speakers make a definite proposition as to what should be done about the specific subject assigned to him. But we must have started snoring rather loudly just then, because the man next to us shook us. When we tried to tell him our dream, he suggested that we change our brand of opium.

But this story has a happy ending. That dream eventually did come true, exactly as outlined above. In New Orleans, on April 14, the American Cotton Manufacturers Association put on four speakers who not only asked the question "What's ahead for the next 10 years in the cotton textile industry?"—but actually answered it. Did you ever hear of such a thing in all your life?

The answers (starting on page 52 of this issue) are of just as much interest to the rayon man, the wool man, the silk man, the knitter, the finisher—as they are to the cotton man. Exactly the same problems face all of these.

In a way, those answers are further replies to the question we have asked so often during the last six months in these columns: "Can a Textile Man Make Money?" The conclusion is the same as that reached by the many contributors to the symposium in our Annual Number: "Yes . . . IF." And the primary IF'S are, once more, production control, research, statistics and merchandising.

•

One of the many good features of B. B. Gossett's all too few public addresses is that they never leave anybody guessing. No listener can possibly ask the question: So what? Mr. Gossett tells them.

And he did just that at New Orleans—in a talk which George Sloan later termed one of the greatest addresses he had ever heard at a textile convention. Organize into groups; eliminate 3,000,000 excess spindles; cut out the third shift—that is Mr. Gossett's program for production control. He cited two groups—print cloths and combed yarns—as doing jobs in that direction, and, as he spoke, the former of these two groups was launching a new offensive against over-production, as noted in this issue.

To use the gag-line in one of the current jokes, all other textile groups should ask themselves this question: "What are we waiting on?"

•

As one who has urged organized cooperative research in the textile industry for a score or more of years, we naturally hail Fuller E. Callaway's proposal for a $25,000,000 annual fund for that purpose as one of the most important suggestions made in recent years.

We know that some will shudder at the magnitude of the plan. Personally, we feel that what this industry needs is magnitude. Most of its projects are on too piddling a scale.

It is interesting to recall that Mr. Callaway's brother—Cason J. Callaway—some years ago proposed a cotton industry promotion plan involving some millions of dollars. Many of his hearers thought he was soaring too high. And yet, we are confident that if a program of that size, properly conceived and administered, had been launched at that time, many of the present problems of the industry would be non-existent.

Fuller Callaway has an open mind on details of the plan, but does have some broad suggestions, as will be noted in the TEXTILE WORLD interview with him elsewhere in this issue. We urge that the industry think carefully about this proposal—and derive a thrill, rather than a fright, from the $25,000,000 phase of it.

•

Obviously, Mr. Gossett's plan would not be practicable if the group attempting it had no knowledge of its current statistical position, especially in so far as movement of goods beyond the mills is concerned. And so, to supply that lack, Robert R. West presented in his brilliant style a tangible, workable program for securing such information. He used strong language in picturing the alternative: periodic lapses into industrial anarchy. That was one of the swell features of this symposium; everybody talked right out in meeting.

Just as Mr. Gossett's ideas were supplemented—or shall we say implemented—by Mr. West's

statistical program, so Mr. Callaway's plan for a real research movement was "buttoned up" by William N. Banks' excellent address on merchandising. For, after all, the improved products which are bound to result from research must be properly merchandised to the consumers, if either the industry or the public is to profit by it. And any textile group that wants to know what to do about the merchandising problem can find the answer in Mr. Banks' New Orleans talk.

•

Government bureaucrats, reformers, labor agitators, and other outside groups have tried again and again to tell the textile industry what it should do about its problems. The industry has quite properly resented these attempts, and has recognized their authors as usually either uninformed or prejudiced, or both.

Well, here is a case where the industry itself is telling the industry what it should do. These four men were willing to stick their necks out. In doing so, they have presented a challenge to their fellow manufacturers.

The textile industry has the answer to "What's ahead?" and to "Can a textile man make money?" It is now up to each group to put that answer into effect—and for the newly organized National Council of Textile Industries to weld these individual programs into a concerted attack on Profitless Operations.

Once more the textile industry is threatening to stop its favorite pastime of giving away its shirt. We suggest that this time there be no fooling. Otherwise, it may find all of a sudden it has no shirt to give away!

THE EDITOR SAYS

Almost There!

TEXTILE WORLD's dream of a coordinating body in the textile industry came nearer realization recently when the articles of incorporation of the National Council of the Textile Industries were ratified by the Cotton-Textile Institute, the National Federation of Textiles, and the National Rayon Weavers Association. It is our understanding that, before this issue reaches our readers, a meeting will probably have been held at which the Council will be organized.

This is bigger news than many realize. We hope, and expect, the movement will extend and eventually include all major branches of the industry. Our oft-repeated question "Eventually: Why Not Now?" is gradually being answered.

Get Mad But Stay Constructive

WHEN the southern cotton manufacturing industry gets mad, it gets good and mad. And it leaves no doubt where it stands.

John H. Cheatham, in his address in New Orleans as president of the American Cotton Manufacturers Association, expressed the viewpoint of the overwhelming majority of his members. He spoke for his constituents, as it were—and so more power to him!

Our only fear, however, is that wrath over the specific recommendation of 32½c., now at issue, will blind textile manufacturers to their industry's real stake in wage-hour legislation.

It is our conviction that most ethical manufacturers want some such legislation—and have wanted it for years. They want it for protection against wage-chiseling which prevents them from getting the premium good management should bring them.

Consequently, it would be unfortunate if the present situation obscured that fundamental attitude.

Important work is ahead, in connection with revision of the wage-hour act. No one could claim the present law to be perfect. In changing it, industry should participate, particularly the textile industry.

Fundamentally, we feel there is one main trouble with the legislation. We feel the original intention was to prevent chaotic collapses of labor standards—such as occurred at the depths of the depression—and thus to protect both employees and employers. We believe, instead, that we got a law designed as a would-be charm to increase employment and raise wages. The latter motive is a worthy one—but it is hard to achieve by law. In any event, it seems to us that the original purpose behind the enactment of this legislation should be accomplished first.

We feel further the ineffectiveness of the committee plan, with one-third representation from the dear public which therefore holds the balance of power, even though such group on any one committee may not—and probably does not—represent that sublime abstraction, the public interest.

Fortunately, there is in Elmer Andrews, an administrator whose mind is not closed. He is most receptive to outside suggestions. Consequently we hope that southern manufacturers, while fighting to the last ditch for any action to which they feel they are entitled, will also maintain their constructive attitude toward a law whose purpose and possibilities are definitely on the constructive side.

No Choice Left!

ANYONE who can get very enthusiastic about the future outlook for a poorly-equipped, poorly-financed textile mill has a source of optimism which we do not share.

Every important event of recent years has tended to penalize such a mill more and more. Major pressure, of course, has come from technological progress itself. Visitors at both the Southern Textile Exposition and the Knitting Arts Exhibition were impressed by the tremendous advance reflected there. Our editorial staff estimates that well over 200 new or greatly improved devices were displayed at the two shows. New finishing compounds and other chemicals were also of outstanding importance.

Almost without exception, these developments are designed to increase mill efficiency and to improve mill products. Against such a trend, what chance has a manufacturer who either will not or can not put his plant into shape?

The potential effect of the recommendations under the wage-hour law adds further pressure in the same direction. That type of legislation has always increased the need for modernization. Particularly is this true when high-cost mills find less and less chance to compensate for that difference in cost by resort to wage-cutting. The only answer is to get busy at once and utilize cost-cutting facilities. Mills which have not the money must be able to convince their banking sources that it's a case of: Modernize . . . or else!

Can You Make a Profit?

Under present market conditions the cost of steam and power may determine whether or not a textile mill can make a profit on the products it manufactures. Two articles bearing on this subject—one of particular interest to executives of mills having their own power plants; the other, to those purchasing power—appear on pages 60 and 68 of this issue.

NEWS OF THE MONTH

World's Fair Textile Features

What started out to be the Textile Building at the New York World's Fair, and later became the Hall of Fashion, is now a hall for special events.

Despite the fact that the primary textile industry now has no centralized participation in the fair, there will be many important textile features in exhibits throughout the grounds.

The Man Building, for example, will include exhibits by Botany Worsted Mills, Interwoven Stocking Co., William Skinner & Sons, Cheney Brothers, Stehli & Co., Inc., Princeton Worsted Mills, and by a group of corduroy manufacturers.

In the Consumers' Building, there will be a Lastex exhibit by U. S. Rubber Co., and one by Hafner Associates, Inc.

The Du Pont Building will feature Nylon, and will also include a jacquard loom producing viscose rayon fabric.

The Glass Center will display glass fiber and its uses. Tennessee Eastman Corp. will show acetate fabrics in the Eastman Kodak Building.

In addition many of the State and foreign buildings will have exhibits of a textile nature.

This represents only a partial list of textiles at the fair. It is this writer's hunch that the total is ample in both scope and interest to warrant a trip to the New York World's Fair on the average textile man's company expense account.

To Finance Subsidy Plan

Finally won over to the President's cotton export plan, Senator Bankhead of Alabama agreed to a plan under which a rider was attached to the regular Agriculture supply bill. It calls for $150,000,000 to finance the crop export program. The bill had already passed the House. The rider was filed, with other amendments, with the Senate Appropriations committee. Meanwhile manufacturers, merchants, and the Cotton-Textile Institute protested so vigorously that the committee called for hearings before going any farther. It seemed doubtful at this writing whether the two-thirds Senate majority vote that is necessary to suspend the rules and attach the rider, could be obtained.

Cotton congressmen say that even if the proposed subsidy is granted, any substantial cotton aid that would have had permanently good effect, has gone by the board for this year. Basic reasons why Congress has failed again to put the pulmotor on cotton is growing lack of faith that resusitation would be permanent, and lack of money even if it had faith. For, so far as the export plan is concerned, not only raw fiber, but cotton products also would have to be subsidized. Then too, any substantial help for cotton export would have to be extended to other crops, so as to treat everybody alike. The President still stands firm against processing taxes.

Urge Tax Change

Elimination of so-called inventory profits and losses from taxable income is the purpose of a move now being made by the National Association of Cotton Manufacturers, according to a statement made recently by Russell T. Fisher, president.

"The association has prepared a brief for submission to the House Ways and Means Committee urging that any cotton mill wishing to do so be allowed to report income by the 'last-in-first-out' method," said Mr. Fisher. "Under the proposed system, current costs would be applied to current sales, and the reported income would correspond to the actual manufacturing margin of profit. Fictitious profits or losses resulting from a rise or fall in prices between the time cotton is purchased and the time cloth is sold, which are now included in taxable income, would be eliminated."

KNITTED strapless bathing suit made by Ocean Bathing Suit Co., New York, for 1939 season.

Wool Labeling in Balance

As the Schwartz-Martin wool labeling bills near a showdown in Congress, old Washington onlookers recall similar efforts back to Senator Capper's proposals 20 years ago, and they wonder if a law is now actually near the making. Sponsors of the legislation on the Hill and in lobby offices, declare they are going to pass it this time sure. But the opposition still hopes that, if the bill reaches vote, it will be turned down again.

The wool growers have lined up formidable support for labeling. A long list of women's associations has testified favorably. It is assumed the Federal Trade Commission, which would be the enforcing agency, wants the law.

Weakness of the wool growers' case lies in their relatively small numbers and the sparce population of their States. Manufacturers and dealers in wool goods, plus their employees, outvote the growers many times over. Then too the growers' argument does not impress some Congressmen. Most reasonable conjecture is that the commission will try to put its rules into effect as soon as Congress adjourns, if the bill does not pass.

F.T.C. vs. Wholesale Institute

The Federal Trade Commission last month issued a complaint against the Wholesale Dry Goods Institute, based on the fact that the Institute has been issuing a list of manufacturers classified in accordance with their selling policy. In the production of this list the Institute states that it has merely acted as a reporting agency and that it does not endeavor to influence the buying or selling policies of its members. Henry Matter, executive secretary of the Institute, states that every detail of the program is supported by decisions of the United States Supreme Court. The classified list of manufacturers was initiated several years ago under the guidance of Flint Garrison. A hear-

Textile Calendar

- *National Association of Woolen & Worsted Overseers, semi-annual meeting, Chopmist Hill Inn, North Scituate, R. I., May 20, 1939.*
- *National Cotton Week, May 22 to 27, 1939.*
- *Chattanooga Textile Group, annual golf tournament, Golf & Country Club, Chattanooga, Tenn., May 25 and 26, 1939.*
- *Cotton Manufacturers Association of Georgia, annual meeting, Sea Island, Ga., May 25 and 26, 1939.*
- *Cotton Manufacturers Association of South Carolina, annual meeting, High Hampton Inn, Cashiers, N. C., June 1 and 2, 1939.*
- *Southern Textile Association, annual meeting, Forest Hotel, Myrtle Beach, S. C., June 16 and 17, 1939.*
- *National Swim-for-Health Week, June 26 to July 1, 1939.*
- *National Safety Congress and Exposition, Atlantic City, N. J., Oct. 16 to 20, 1939*
- *17th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 4 to 9, 1939.*

ing has been set by the F.T.C. for May 5. The complaint alleges that the Institute has coerced and compelled manufacturers to confine sales of their products to members of the Institute and to those conforming to their definition of wholesalers.

Colored Yarn Group Meets

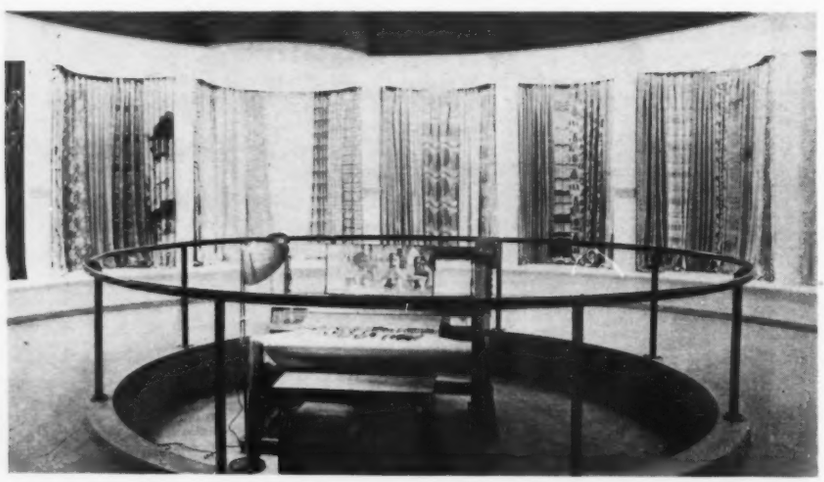
At a recent meeting of the Carded Yarn Group in Charlotte, N. C., executives of 16 colored yarn mills voted unanimously to reorganize the colored group under the leadership of W. N. Banks, of Graniteville, Ga. A meeting was scheduled to be held early this month in Atlanta to discuss problems of particular interest to colored-yarn manufacturers. Owen Fitzsimons, of the Cotton-Textile Institute, is chairman of the carded yarn group.

STA Group Reviews Machinery Show

A large number of operating executives comprising the Piedmont Division of the Southern Textile Association met at Charlotte this month for the purpose of discussing new machinery developments displayed at the Southern Textile Exposition held in April at Greenville, S. C. B. M. Bowen, superintendent of the Salisbury (N. C.) Cotton Mills is chairman of the division. *(Editor's Note—* A description of all new machinery shown at Greenville and Philadelphia is carried in this issue in the special "Go-to-Meetin'" section beginning on page 69.)

Union Appeals Judgment for Apex

Following the triple damage verdict of $711,932 awarded April 3 to Apex Hosiery Co., Philadelphia, in its suit against Branch No. 1, American Federation of Hosiery Workers, as reported in these columns last month, the union made formal application in court to set aside this verdict. On April 24 the trial judge, W. H. Kirkpatrick, upheld the verdict for Apex and April 25 the union and its president, William Leaders, appealed the decision to the U. S. Circuit Court of Appeals. No date has yet been set for the review by this higher court, but the hearing will probably take place in June.



TEXTILES are on display at the Golden Gate International Exposition which opened in San Francisco in February. The collection shown above is in the Decorative Arts Exhibit. In the center is a hand loom for multicolor tapestry weaving.

Trade Rules for Ribbon Industry

Proposed trade practice rules for the ribbon industry were issued by the Federal Trade Commission on April 11 and the public hearing set for April 27. Only one man appeared, left his opinion informally and the hearing was called off. These rules do not supplant or relieve any member of the industry from the necessity of complying with such fiber identification rules as may apply. The new rules have to do with trade practices and identification of character or origin of the ribbon. A "trade practice" committee may be appointed from the industry.

Mercerized Yarn Shipments Increase

Shipments of mercerized cotton yarn in the first sixteen weeks of 1939, ending Apr. 15, totaled 39% more pounds than in the same period of 1938. Shipment figures show that 15% more yarn was shipped to that date in 1939 than was averaged during the same 16 weeks in 1936, 1937 and 1938. These figures were made available by Dean Hill, president of the Mercerizers Association of America.

The Hosiery Price Puzzle

The situation on full-fashioned goods as regards price is an ambiguous one. Since current prices were named raw silk has made and held a spectacular advance. There seems every reason to move up prices on full-fashioned goods to cover this increase in cost, and yet several manufacturers last month continued their current prices for deliveries through the month of May. One large maker raised prices on unbranded numbers 25¢ on April 28. It is certainly evident that if raw silk maintains its present level advances of 25 to 50¢ must be made if profits are to be retained. Retail price ranges may be maintained by building the welt from rayon yarn and using silk merely for the leg and foot.

Hosiery shipment of all kinds for March, at 13,141,535 doz. pr., were the largest ever recorded for a single month.

Numerous full-fashioned mills will probably begin a program of curtailment this month. This program is useful in that it will prevent an increase in inventories, thus establishing a firm position when the market

must eventually raise its prices. It also means a lessened consumption of raw silk, and, since the American hosiery industry consumes more than half of the raw silk shipped out of Japan, it is possible that this reduced consumption may have some effect in softening prices on the primary silk market.

Chemists Discuss Casein Fiber

Work on the production of synthetic fibers from casein were described by E. O. Whittier and S. P. Gould, of the U. S. Bureau of Dairy Industry, at a meeting of the American Chemical Society, held April 4, in Baltimore, Md. Other papers of interest to textile men delivered at the meeting included the following: "Experiments to Use the Whole Cotton Plant," by George C. Holyrod and Professor Frank K. Cameron, of the University of North Carolina; "Micro-Methods for Examination of Textiles and Other Materials," by George L. Royer, of Calco Chemical Co.; "Finishing of Textiles," by Kenneth H. Barnard, of Pacific Mills; and "Utilization of Southern Wood," including both pine and hardwoods, for production of wood pulp and cellulose for rayon and other purposes, by Charles Carpenter and Frank McCall, of the Herty Foundation Laboratory, Savannah, Ga.

Labeling Sub-Quality Sheets

To prevent confusion of consumers, members of the sheet and pillow case group of the Association of Cotton Textile Merchants of New York have agreed to limit the terms used in labeling this merchandise which is below first quality grade to a choice of four terms. These are: "irregulars," "second quality," "second selection," or "seconds." It is particularly desirous that these terms be used instead of such expressions as "run of the mill" and "run of the loom" which the group believes are unwarranted and misleading. The plan has the approval of the National Better Business Bureau.

"Nude-but-Nice"

That is what Gotham Silk Hosiery Co. calls its new sandal-foot stocking. It's a high-twist 3-thread with that "no stocking at all" look. Created to wear with open-cut shoes, this new style has the appearance of an un-reinforced stocking but the better wearing qualities of reinforced hose.

TEXTILE MILL SIDE-LIGHTS—NO. 5

"It's Applegate, Boss! He went to a fancy dress ball last night an' couldn't get out of his costume!"

Cotton Goods Firm Slightly

There was an interesting flurry of buying in the cotton gray goods at the end of April, accompanied by a slight increase in prices. This was the first encouragement given the mills in many weeks, and there was hope that some real buying was about to begin. However print cloth manufacturers believe there can be no lasting improvement until curtailment has taken place. The attempt to curtail productive equipment and "impound" present stocks of print cloth is regarded as a hopeful factor. The month closed with ⅛¢ advances.

Wool Goods Slacken

There was a let-up of interest in the wool goods market at the close of April. Men's wear had reached a slack period, although tailors-to the trade and chain stores have been placing initial fall business on worsted suitings. Women's wear closed the spring season and fall goods are being offered unchanged or up 5 to 10¢ a yard over values named at the beginning of the previous season. On the whole, buyers seemed willing to remain on the short side of the market. Clothing manufacturers have opened fall lines of garments during the last few weeks at prices largely unchanged.

A style forecast indicates that stripes in men's suits will be twice as popular this fall as any other single pattern, next in favor will be tweeds, and then herringbones.

Raw Silk Uptrend

Raw silk prices continued upward during April with only few periods of hesitation. Grade D on the open market in Japan had been quoted up to 1,200 yen, but receded to 1,152½. New York price for Crack XX 78% was $2.60 as the month of May opened, a rise of 30¢ from April 1. Although domestic consumption is certainly increasing in Japan, it does not yet appear to be on a magnitude to warrant the pronounced advance in prices during the last four months.

Raw silk takings by U. S. mills in April were only 27,802 bales, 27% under March and the lowest monthly figure for many months.

Rayon Strengthened

Curtailment put into effect by several rayon producers is reported to have a strengthening effect on a dull market. Certain rayon users, however, have been trying to unsettle the situation by making offers below list prices for appreciable quantities of yarns. Other groups have been talking price

guarantees. If inventories do not begin to accumulate, producers will probably remain in control of the situation.

There is notable interest in multi-filament, fine sizes. For example, the 75–60 yarn is being sought for use in rayon sheers and in some quarters the 60-60 yarn is given preference. Business in rayon staple continues good although the market is not so tight as it was during March.

Underwear Waits

Underwear business was moderate through April with most interest centered on shirts and shorts for immediate delivery. There has also been fair demand for light-weight pull-overs, such as are made by underwear mills.

Prices on fall goods are said to be too low to permit profit, and with a higher minimum wage likely before the end of the summer, advances are in prospect. It is reported that wholesalers have been offering men's 10-lb. union suits as low as $4.50 a dozen.

Outerwear Market

Except for certain types of garments in the bathing suit field, the outerwear market is drifting without definite trend. Woolen knit and elastic fabric trunks were reported active in April and there was scattered demand for lighter weight items.

Rayon Fabrics

Demand for rayon fabrics through April was steady though not large. Taffetas remain a leading item, with twills and serges losing a little ground. There is interest in fine count multi-filament rayon satins for fall. Rayon underwear fabric trade may improve during the next few months since silk prices are high and there will be a greater-than-usual spread between the two types of garments.

This and That

▶ Thomas F. McMahon, who was from 1921 to 1937 president of the United Textile Workers of America and who for the last two years has been State Labor Commissioner of Rhode Island, has been appointed by Emil Rieve as a national representative of T.W.O.C.

▶ The Informative Labeling Foundation of America has been set up as a public trust controlled by a board of trustees to be appointed by manufacturers of dependable merchandise. Byron G. Moon, president of the Byron G. Moon Advertising Agency, New York, is the originator of the plan, but neither he nor his organization is to be a direct beneficiary.

▶ Joseph Bancroft & Sons Co., Wilmington, Del., has recently announced the development of a new, durable water-repellent treatment, known as the Ban-Dri process. Fabrics which have been subjected to this process are obtainable through Clarence S. Brown & Co. and Wm. Simpson Sons & Co.

▶ The 1939 Statistical Folder, giving useful figures on the full-fashioned hosiery industry has been issued by Textile Machine Works.

▶ Botany Worsted Mills have been celebrating their 50th anniversary in a series of dinners and parties from May 4 to 11.

▶ Rayon production and consumption for first quarter of 1939 in U. S. set new high records according to *Rayon Organon*. Production totaled 81,200,200 lb.; consumption, 79,200,000 lb. Both declined in April.

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At the spring meeting of the Piedmont Section, American Association of Textile Chemists & Colorists, Apr. 29, in Greensboro, S. C., a round table discussion of cotton-yarn dyeing problems was led by A. F. Bears. Nester H. Grotelueschen, of Magnet Mills, Clinton, Tenn., discussed "Control of Variables in Hosiery Dyeing"; P. J. Wood of Royce Chemical Co., discussed "Organizing a Dyeing and Finishing Plant for Synthetic Piece Goods"; and Walter L. Savell, of Mathieson Alkali Works, spoke on "Application of Alkalis to Textiles."

At a meeting of the Philadelphia Section also held Apr. 21, Lucien Buck, of Proctor & Schwartz, Inc., spoke on "Principles of Drying and Textile Dryers."

At the April meeting of the American Association of Textile Technologists, which took the form of a symposium on dyeing and finishing, talks were made by P. H. Stott, of E. I. du-Pont de Nemours & Co.; Dr. D. H. Powers, of Rohm & Haas Co.; and J. G. Cluett, of Cluett, Peabody & Co.

Biggest and Best Cotton Week

This year's event to eclipse its predecessors

IT doesn't require much deliberation to pick Public Relations Event No. 1 in the textile industry this month. It is of course National Cotton Week, scheduled for May 22 to 27. Billed as the most aggressive, far-flung Cotton Week in history, it has good arguments in support of this claim.

Sponsored jointly by the Cotton Textile Institute and the National Cotton Council of America, the week also has the cooperation of the Cotton Consumption Council. The last-named organization is backed by the American Cotton Cooperative Association, the Association of Southern Commissioners of Agriculture, the Institute of Distribution, the National Association of Chain Drug Stores, the National Association of Food Chains, the National Retail Dry Goods Association, and the Wholesale Dry Goods Institute. Thus it will be seen that all interested groups in the cotton industry, from the growers of the raw material to the retail merchants, of whom 75,000 are cooperating, are under the big tent.

But interests outside the industry are also participating. The National Broadcasting Co. is saluting jointly

A two-inch celluloid button, reproduced above, will be made available through underwear manufacturers to retailers, to be worn by sales clerks through National Cotton Week. This is part of the promotion of knitted cotton underwear during Cotton Week sponsored by the Durene Association of America. The association has released illustrated broadsides to 25,000 retail store executives.

National Cotton Week and the Memphis Cotton Carnival in a coast-to-coast half-hour broadcast over the Red Network on Saturday evening, May 13, at 10 o'clock E. S. T. On Tuesday evening, May 23, the "Big Town" program, broadcast over the Columbia Broadcasting System, will also carry a salute to Cotton Week. In addition, all manner of local celebrations and festivals are to take place from coast to coast to commemorate and encourage King Cotton who has had an increasingly tough existence during recent years.

Incidentally, it is fitting that at this time the Cotton Textile Institute should have published an educational booklet entitled "Cotton—From Raw Material to Finished Product." This booklet has been prepared primarily for the use of students, teachers and others who are interested in learning more about the process of cotton goods manufacture. It treats the subject in a comprehensive manner and represents a collection of interesting and valuable information on the characteristics of cotton, its growth, ginning and marketing, and the various processes through which it passes from the raw state to the finished product. An important feature of this booklet is the showing of 64 swatches of representative staple and industrial cotton fabrics, together with a brief description of each fabric and the uses for which it is particularly adapted.

Getting Acquainted

Textile mill men meet and hear representatives of Foundation's research plans

FOR YEARS the Textile Foundation has been sponsoring studies in both technical and economic research, as well as a major effort in the field of textile education. It has enjoyed the participation of textile associations, textile committees, and the textile schools in these projects. The rank and file of textile manufacturers, however, had little or no first-hand knowledge of this vital work.

To remedy this, a series of meetings was held in the South during the first week of May, at which manufacturers and others associated with the industry met with representatives of the Foundation, the schools, and other agencies. Similar meetings will be held in New England and Philadelphia later in the year.

The southern series included sessions at Alabama Polytechnic Institute, Auburn, Ala., May 1; Georgia Institute of Technology, Atlanta, Ga., May 2; Clemson College, Clemson, S. C., May 3, and North Carolina State College, Raleigh, N. C., May 5.

The subjects explored and discussed at the meetings included: marketing, merchandising, management, progress and profits from the laboratory, vertical integration, inventory policies. The following men lead the discussions: Hiram S. Davis, Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, director of the study on "Vertical Integration in the Textile Industries"; George W. Taylor, Research Department, Wharton School, member of the Textile Industry Committee of the Wage and Hour Administration; Warren E. Emley, National Bureau of Standards, member of the Textile Foundation's Advisory Committee for Scientific Research; Frederick M. Feiker, general secretary, American Engineering Council; Stanley B. Hunt, Textile Economics Bureau, member of the Economic Research committee of the U. S. Institute for Textile Research.

This Month's Cover

The cover photograph on this issue shows one of the two huge banners sponsored by the Association of Cotton Textile Merchants of New York and signalizing the merchants' participation in National Cotton Week. The one pictured is stretched across Broadway at Worth Street; the other is across Worth Street at Church Street.

The retiring president of American Cotton Manufacturers Association, John H. Cheatham (right), is presented with a silver tea pot by Fuller E. Callaway, Jr., representing the association.

What's Ahead?

A. C. M. A. looks forward 10 years and outlines constructive program of action

A $25,000,000 annual cotton-textile research fund. A program of production control involving elimination of excess spindleage and of the third shift. An organized knowledge of the facts surrounding the movement of goods from the lint cotton to the consumer's hands. Elimination of profitless selling.

Such was the Utopia which four speakers at the American Cotton Manufacturers Association convention envisaged when they "looked ahead 10 years" in the cotton textile industry. The symposium was one of the most important ever presented at a textile convention.

"PUBLIC ENEMY NO. 1"

No more fitting selection as the warrior to lead the fight against the third shift ("Public Enemy No. 1") and other phases of over-production could have been made than that of B. B. Gossett, president of Chadwick-Hoskins Co., Charlotte, N. C. For years he has been in the vanguard of that fight. Six years ago when he himself was president of the A. C. M. A., he warned that "no governmental agency forces us to overproduce" but that "the Government will soon adopt such measures as may be necessary to force us to put our house in order unless we voluntarily do so." Prophetically, he visualized maximum hours and minimum wages, as two inevitable forms of industrial legislation.

There was nothing evasive about the production-control program advanced by Mr. Gossett at New Orleans. In a fine clean-cut answer to the question put to him he recommended:

1. Organization of the industry into groups to effect long-range control of productive machinery. (As examples of existing groups making constructive efforts in that direction, he cited the print cloth and combed yarn groups.)

2. Elimination of approximately 3,000,000 marginal spindles under the direction of a syndicate formed for that purpose.

3. Limitation of the operation of the remaining spindles to a maximum of two 40-hr. shifts.

"None of those three elements of the plan is impossible or impracticable," he stated. "Neither is the plan as a whole beyond accomplishment.

"Gentlemen, we are now face to face with the supreme test of our collective common sense, of our intellectual and moral courage, and of our faith in the essential soundness of the great basic industry of which we are an important part. Surely if ever there was a time when we should make common cause in our common interest and for our mutual protection, it is *now*. I believe the future holds even greater opportunities and promise than ever before for those of us who have the stamina, character and intelligence to successfully meet the very real emergency with which we are confronted. Ours is an industry that can be saved, and must be saved, and will be saved. If this generation is not competent to save it, another will."

AVOID INDUSTRIAL ANARCHY

Just as Mr. Gossett was a well-qualified speaker on production control, so was Robert R. West, president of Riverside & Dan River Cotton Mills, Danville, Va., entitled to speak on statistics, the second phase of the symposium. He has been a leader in attempts to arouse the industry to the need of knowing where it is going.

"It is difficult to view with composure the future of the textile industry if we fail to know precisely what we are doing," he said at New Orleans. "Failure to act wisely is a human characteristic, but failure to make every effort to completely inform ourselves exposes us to the just criticism of industry incompetence. These periodic lapses into industrial anarchy might be circumvented if we could inform ourselves as an industry on all the facts surrounding the movement of our goods from the lint cotton to the consumers' hands."

Like Mr. Gossett, Mr. West was not content with generalities. He presented in logical order exact information concerning the status of textile data, as follows:

1. The raw material supply and its price. We have that information at the present time.
2. The rate of consumption of the raw material at the hands of the processors. This information is also available.
3. The current production of textiles. This also is partially available.
4. The current off-take of goods into distributing channels. This information is not available in any comprehensive form.
5. The current off-take of goods into the hands of the consuming public. This information likewise is very fragmentary.

As a result of this analysis, he proposed that the American Cotton Manufacturers Association endeavor to enlist the support of textile manufacturers, converters, industrial users, wholesalers, garment manufacturers, and retailers in setting up a statistical program which will accurately and promptly reflect the position and movement of textile merchandise.

Not only does Mr. West believe that the sources of information must be multiplied, and must take in all the integrated zones of the industry, but he is definitely convinced that the procedure of gathering and publishing this more accurate information should be "in professional hands divorced from any parties and interest, impartial and devoted to the dissemination of the facts of the situation."

As to the question whether such an endeavor would be worth its cost, the speaker admitted that he had no idea what the cost would be but raised the question whether the industry "can afford to be without this information even though it is at a substantial cost."

A $25,000,000 PLAN

A breath-taking proposal—and one which captured the imagination of his hearers—was advanced by Fuller E. Callaway, Jr., president of Callaway Mills, LaGrange, Ga., in his address at the New Orleans meeting. He suggested a fund of $25,000,000 a year to promote textile research.

"Why not organize our resources for strength and unity to fight through research our common competitive enemies such as paper, jute, and metal?" he asked. "We have always been glad to contribute our money and time to fight *against* anything which threatened our industry. Why not contribute toward a fight *for* something? A fight for bringing our industry back into its flower through research. A unified fight.

"If all the textile mills in the United States would pay an amount equal to 1% of their net invoices into a fund to promote research on a broad front, we would have a fund of approximately $25,000,000 a year and it wouldn't cost any individual mill a cent of profit if we all did it. All other industries combined in the United States are spending approximately $200,000,000 a year on research. A textile research project costing $25,000,000 a year would enable the textile industry to not only get on its feet but to soon be riding the crest of the wave.

"I for one stand ready to join hands with the rest of the industry and to contribute 1% whenever the balance of the mills will join me."

"LOOKING Forward for the Next Ten Years in the Cotton Textile Industry." That was the theme of the A. C. M. A. meeting at New Orleans last month. The addresses on this theme are summarized in the accompanying article. Other important developments at the convention are reported on pages 75 and 76.—Editor.

When questioned subsequently by the editor of TEXTILE WORLD regarding details of his proposal, Mr. Callaway stated that, while he had not formulated any definite plan, he thought the research laboratory should be operated by a full-time, paid board—such board being appointed so that one or more members would represent each branch of the textile industry. The board members could be selected by, and work closely with, the various trade associations already in existence, he added. An important feature suggested by Mr. Callaway is that patents developed by this research laboratory would be licensed only to those mills contributing to the expense.

As to the minimum income with which to start, and the general method of financing, he feels that mills should be signed up on a five-year basis, the plan to become effective when some stated percentage of the industry had signed up. He suggests further that contributions could be on the basis of one-tenth of 1% of each mill's net shipments for the first year; one-quarter of 1% for the second year; one-half of 1% for the third year; three-quarters of 1% for the fourth year; and 1% for the fifth year, representing the full amount suggested by him at New Orleans.

"NEVER SELL AT A LOSS"

"Never sell at a loss, always sell at a profit" was advanced as the first merchandising rule for the cotton textile industry, by William N. Banks, president of Grantville (Ga.) Mills, in the final address in the symposium, on the subject "Merchandising and Promotion."

"It is almost incredible but nevertheless true," he said, "that many of us who are supposedly good businessmen are today selling yarns and cotton goods 1, 2, 3 and 4¢ per lb. below cost. We are actually paying the buyers huge sums of money to take our goods. You just wouldn't think that sane, sensible, experienced and intelligent businessmen would pursue a suicidal course of this kind. Still we are doing it. Needless to say we can't keep it up forever any more than our Government can continue spending each year large sums in excess of its income and remain solvent. A reckoning day must come unless we quickly change our method of merchandising our products."

In common with the other speakers, Mr. Banks offered specific and clean-cut suggestions for remedy of the present situation. A wise manufacturer, he stated, will become a member of a group organization composed of those making and selling the same products. These groups, he believes, should tackle the following problems and do something about them:

"Wider markets for cotton products; improved quality and better styling; necessity for full statistical data relating to supply and demand to prevent markets being glutted; elimination of the third shift; imperative need for accurate cost data; urgent requirements that no merchandise be made up for which there is no order, that inventories be kept in complete control, and that cotton products be advertised under a label or brand so as to identify them to the consumer; adoption of sound merchandising rules; the stupidity of selling below cost, and the necessity for making a fair return on investments."

"The hour has struck for less selling, and for more progressive merchandising and promotion," he concluded. "Let's cooperate with each other and save our industry from the ruin and disaster that awaits us if we continue to pile up deficits as a result of inefficient merchandising methods.

"We have a great industry. We want to see it grow and expand, and be a greater factor in the development of our beloved Southland than it has ever been. We cannot afford to stand still or retreat. We must move forward in a cooperative way, and by unity of action and purpose, we can make the cotton textile industry, not only during the next ten years, but forevermore, a source of genuine pleasure, pride and profit to all who are connected with it."

Wage-Hour Decision Delayed

Hearings, and then time for deliberation, make late summer probable time

By BLAINE STUBBLEFIELD
Washington Office, TEXTILE WORLD

WASHINGTON'S forecast on effective date of textile, wool, and hosiery wage orders has moved from July to August, or possibly later. At present the committees and the committee-service section of the Wage-Hour Division are expecting to get out their recommendations in June. After that the Administrator plans to allow 30 days' notice before hearings. That would put the opening of hearings near July 1, and they probably will run for two weeks or more. Then, beginning about July 15, Mr. Andrews will take plenty of time for careful consideration of witness opinion.

There is a rumor around the capital that inasmuch as Oct. 24 will be drawing near—the date on which the statutory 30¢ minimum and 42-hour maximum take effect—the administrator might be inclined to let his 32½¢ order ride till then. The theory is that the industry is expecting a change on that date, and this new minimum would be it. Some observers say that the administrator has no authority to delay his orders beyond the procedure; others argue that he is not bound by law to act until he sees fit.

No contention is expected at hearings over hosiery and wool rates. The hosiery committee's 40¢ and 32½¢ recommendation was unanimous, and little if any protest is heard here from the field. On wool, the labor men tried for a 40¢ rate, but indications are now that they are fairly satisfied with the 36¢ proposal. It is in the cotton, silk and rayon groups that some rough going is expected. Of course wool may become involved.

The American Cotton Manufacturers Association has engaged legal counsel to assist the textile committee minority in substantiating its position against the 32½¢ wage recommendation. Also, at its meeting in New Orleans, the association adopted a resolution asking that Mr. Andrews reject the recommendation, and that no increase in the minimum be put into effect until October next year.

The association has a perfect right, of course, to engage counsel for the committee minority, and also to appeal to the administrator to reject the 32½¢ recommendation. As for the association's request that the minimum be not increased till October 1940, it is futile. The administrator has nothing to do with that. The law says "(1) during the first year from the effective date of this section, not less than 25¢ an hour, (2) during the next six years from such date, not less than 30¢ an hour," and after seven years, 40¢ an hour except in cases where a lower rate has been ordered by the administrator. Therefore, the association's request could not be granted except by act of Congress, which is considered out of the question.

The association's preliminary outline of its case against the 32½¢ wage minimum runs pretty much along the lines of testimony against the Black-Connery legislation, observers say, and they point out that Congress rejected those arguments. The association's strength, says legal opinion here, will lie in its claim that a substantial number of spindles in the South will be silenced if the recommended wage is ordered. If the administrator can be convinced that such would be the result, he would be obliged to reject the recommendation. For the law tells him to raise wages above the minimum only when the workers' interest will not be damaged. Thus this appeal rests largely upon the judgment of the administrator.

It is believed here, however, that this opposition group will appeal to the courts if Mr. Andrews issues the order. The charge would be that the administrator's conclusion was improperly arrived at, in disregard either of the evidence or of the law or both. And, for good measure, constitutionality of the Act might also be questioned. Not even the most willing prophets try to tell you what the courts might do with such a case. It is admitted by some proponents of the wage-hour program, though, that if the administrator rejects the committee's recommendation, or if he issues the order and the court annuls it—in either case wage control above the minimum in the three-textile group would be a long time getting on its feet again.

Obviously plenty of people do not believe that raising textile wages under the labor standards law as it stands will solve the problem. Many do not even believe that any particular problem exists. But so many *do* think it exists that they have power to keep on trying to solve it, and impartial observers say they *will* keep on trying. They say that annulment of the wage order, if it is issued, would solve nothing permanently. The Wage-Hour Division would start its efforts anew, and the uncertainty would go on and on.

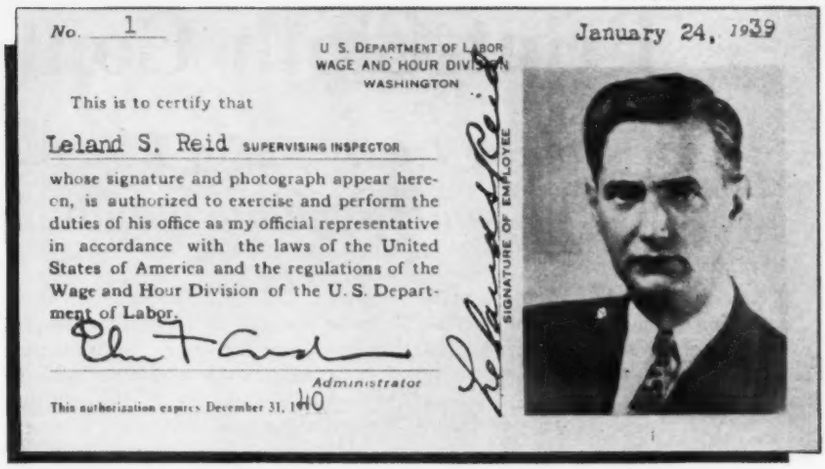
Failure of the textile committee to recommend wage exemptions for sweepers and other handy help is one of the sorest disappointments to southern mill men. They believe, Washington hears, that putting colored and white help on the same minimum will create a troublesome problem. Unofficially, some of the wage-hour people express their answer to that. They point out that the minimum soon will be 30¢. The difference between that minimum and 32½¢ for a 42-hour week, would be $1.05 a week—not enough of a bargain, they say, to save the negroes their jobs anyway, if the employer wants to replace them with whites. Furthermore, in their opinion, it is the committee's job to push bottom wages for everybody toward 40¢ as rapidly as possible, without damage to the public interest; and if the committee doesn't do so, the administrator is told by Congress to appoint a new one.

Wool and textile main committees plan to meet sometime between May 22 and May 31, to hear and vote on

What the South Thinks

THE southern cotton textile industry has left no doubt as to its attitude toward the 32½c wage-hour recommendation. At the convention of the American Cotton Manufacturers Association, President John H. Cheatham and the Resolutions Committee spoke out frankly. ***(See pages 75 and 76.)***

Courtesy of Underwear Institute


No. 1
January 24, 1939
U. S. DEPARTMENT OF LABOR
WAGE AND HOUR DIVISION
WASHINGTON
This is to certify that
Leland S. Reid SUPERVISING INSPECTOR
whose signature and photograph appear hereon, is authorized to exercise and perform the duties of his office as my official representative in accordance with the laws of the United States of America and the regulations of the Wage and Hour Division of the U. S. Department of Labor.
Administrator
This authorization expires December 31, 1940
SIGNATURE OF EMPLOYEE

Inspectors of the Wage and Hour Division of the U. S. Dept. of Labor are authorized to examine payroll records in their task of enforcing the Fair Labor Standards Act. They will be identified by a card similar to the one shown above. There are 120 of them now in the field

their subcommittees' recommendations as to wool mixture with cotton, silk and rayon. That is, they will determine a percentage of wool content or line of demarcation below which manufacturers will pay the 32½c. "textile" minimum and above which they will pay the 36-c, wool minimum. Probably the two main committees will recommend different percentages. If they do, then an agreement will be necessary to pull the two figures together. (It is believed there will be but one demarcation figure for cotton, rayon, silk—not three.)

When the wool mix definition is established, the committees probably will take re-affirmative votes on their previous minimum wage recommendations, before they submit final recommendations. TEXTILE WORLD previously explained in these columns how the wool overlap and the textile and wool basic wages were inter-dependent and could be considered only in relation to each other. It was suggested that perhaps the minimum wages recommended were experimental, even though probably they would turn out to be final. The committees will be shooting the roughest rapids when they take the re-affirmative vote, for it obviously might be regarded as re-opening the wage issue.

Previous announced plans to hold hearings on the wage recommendations at three different places were unofficial, it now turns out. The idea was to take testimony at some place in New England, in Washington, and at some place in the South, so as to enhance the opportunity for all interested parties to appear. It now seems probable that the New England hearing will be eliminated, and the hearings will be held in Washington and in Charlotte, N. C. Reasons for this move are not stated, but it seems obvious that the northern session would be superfluous, since there is little or no dissatisfaction in that region.

After six months of the wage-hour law, the Administrator and Congress have moved to correct what they consider its faults and inequities. On Mar. 29 House Labor Committee Chairman Mary Norton introduced a bill of amendments, written jointly by committeemen and Wage-Hour counsel. Since that time the committee has met intermittently in closed session to discuss its provisions. The committee refused to vote on the question whether to take additional testimony. Members thought that any more would be repetition of the volume taken previously, and, more important, they feared that enemies of the Administration might seize the opportunity and try to weaken the law.

House Labor Committee approved the amendments, after considerable change, by a vote 16 to 2, on Apr. 25. Unless unexpected monkey wrenches are tossed in, the House will vote on the amendments soon, and probably will pass them more or less as reported. Changes from the floor have already been threatened, but an attempt will be made to stall that by suspending the rules. As for the Senate, it is up to its neck in neutrality and Labor Relations amendments, and probably will pass a companion draft of wage-hour amendments without much discussion. By tacit consent, the House seems to have taken over labor standards, leaving labor relations to the Senate.

Of chief interest to mill employers is of course the exemption from hours provisions of salaried workers getting $200 per month or more. This amendment, if it is passed, will relieve employers of most record keeping on this class of skilled employees. Coverage of such people was the first congressional mistake discovered by Mr. Andrews in his swing around the country last Autumn. He found that these skilled men are used to managing their own time, that they are willing to go through periods of long hours, that they enjoy their privileges when the pressure goes off. Needless to say, employers considered keeping time on them a burdensome nuisance, and few of them could afford to pay the time-and-a-half requirement.

But the amendments would ease the overtime burden by authorizing the administrator to permit payment for overtime in time off instead of in cash. Committeemen seemed to have reached an understanding with Mr. Andrews that he would grant permission for employers to give one and a half hours off for each hour of overtime worked.

Concerning the class of floormen, supervisors, etc., getting less than $200, their status would be clear if the amendments are passed. That is the law, by not mentioning those below the $200 figure, would definitely put them under the hours provision. The result would not be good news to employers, but it would at least relieve them of uncertainty. It is believed here, though, that most workers under doubtful status were being held within the law, so that the effect of the amendments would not be to increase greatly the present overtime wage cost.

Almost no opposition was offered on the amendments except by farm bureaus on the elimination of the "area of production," thus putting something like a million agriculture trade workers under the law. The law as it stands exempts all agricultural work, and "first processing" —that is, cleaning, grading, weighing, boxing, etc., within the area of production.

Other amendments of interest to the industry: Industry committees would be authorized to set special minimum wage rates in Puerto Rico and Virgin Islands, lower than the statutory minimum and to make special rulings regarding homework; rural telephone systems and messenger boys would be exempt from hours provisions; employers would be excused from liability for acts done or omitted in conformity with the administrator's orders, thus eliminating the employer's risk of having to pay restitution under court order; the administrator would be authorized to make more rules and regulations than he can make now, and the same would have the force of law; persons in possession of goods produced in violation of the law would not be responsible if they acquired the goods in good faith.

Print Cloth Control Plan

Under leadership of J. E. Sirrine, group would regulate output and sales

THE PRINT cloth group is planning another attempt to put its house in order. This is not news in itself, because these mills have striven valiantly against long odds over a period of years to effect stability. The big news in the latest proposal, however, is the bold nature of the plan itself, as well as the caliber of the man who has been prevailed upon to lead the movement.

If and when accepted by the industry, this will not be just a plan involving intermittent curtailment but rather a combination of reduced operations and an impounding of current stocks. The importance of the latter feature is obvious; too often, curtailment programs have been ineffective as a market stabilizer because of the depressing effect of huge inventory. If it is known that these stocks will be released only in an orderly fashion, this paralyzing factor will have been removed.

The other important phase of the plan, as indicated above, has to do with the man. J. E. Sirrine, of J. E. Sirrine & Co., Greenville, S. C., has consented to act as chairman of the committee which will carry out the program, if and when it is backed by 95% of the print cloth industry. Mr. Sirrine's standing is too well known to comment on. His participation in the plan lifts it to a status which no other proposition has enjoyed in the past.

Details of the Agreement

Specifically, the agreement which print cloth mills are asked to sign would commit them to (1) continued elimination of the third shift for one year from July 1, 1939; (2) decrease of production schedules to not exceed 60 hours per loom per week, for an initial period of three months from the effective date of the program, to be extended if found advisable; (3) limitation of sales to current production, until such time as the committee finds it advisable to modify this phase of the program.

In connection with the third part of the agreement, it is explained that from time to time the committee would permit those mills in the agreement to release a certain percentage of stocks for sale pro rata. For example, at a certain time the mills might be entitled to sell 5% of their stocks. The term "impounded" is not quite accurate in some of its implications, since the stocks would continue to be held in the member plants, and of course disposed of through their regularly established sales channels.

Other members of the committee headed by Mr. Sirrine are F. W. Symmes, E. S. McKissick, J. B. Harris and D. W. Anderson. As indicated above, the plan would become effective when representatives of 95% of the looms in the print cloth division had signed the agreement.

J. E. Sirrine

In an interview with the editor of TEXTILE WORLD, Mr. Sirrine emphasized the fact that the sole purpose of the plan is to effect stability in a market where chaos has reigned for so long, to the detriment of buyers as well as sellers. He stated that there is no price feature attached to the plan, no attempt to "freeze" the market in any way or to create a scarcity, with resultant inflationary effect on prices. Instead, the whole idea is that, since excessive stocks are choking the market, it merely seems reasonable to cut down production below normal consumption in order to permit the orderly liquidation of a part of these stocks, somewhere down to the point where inventory would be reasonable. Mr. Sirrine also disclaimed any desire on the part of the industry to make him a "czar." Although chairman of the committee, he would be only one of a group which would make decisions about release of stock, once the plan went into effect.

It is understood that the plan has the endorsement of bankers who have an interest in the industry, and also that legal advice is to the effect that the plan is sound so long as it keeps within the scope outlined.

Although it is impossible to state at this writing whether or not the 95% quota will be obtained, it is known that those responsible for the formation of the plan are optimistic that such support will be forthcoming.

THE PRINT CLOTH PLAN

***ONCE** upon a time there was general belief in the idea that, the lower the price at which materials could be bought, the better for the purchaser. Textile manufacturers, in their attitude towards raw material supply, for example, shared in this illusion. Today, only a minority is still fooled by it.*

Certainly, we do not believe that any intelligent buyers of print cloths could imagine for a moment that the chaotic conditions of that market during recent years have reacted to their advantage. They have been the sufferers, just as much as the manufacturers—and to some extent even more so, because chaos is compounded in the course of the progress of a product from producer to consumer.

Therefore, the broad purpose of the print cloth stabilization plan, outlined on this page, is in the interests of buyers just as much as of sellers, and consequently is in the public interest.

Hope for the success of this plan, if and when it is endorsed by 95% of the group, is immeasurably strengthened by J. E. Sirrine's participation as chairman of the committee which would administer the program. The respect and confidence which he enjoys in the textile industry will be invaluable assets in the effective operation of the plan, when and if adopted.—Editor.

Spun-Rayon Trends

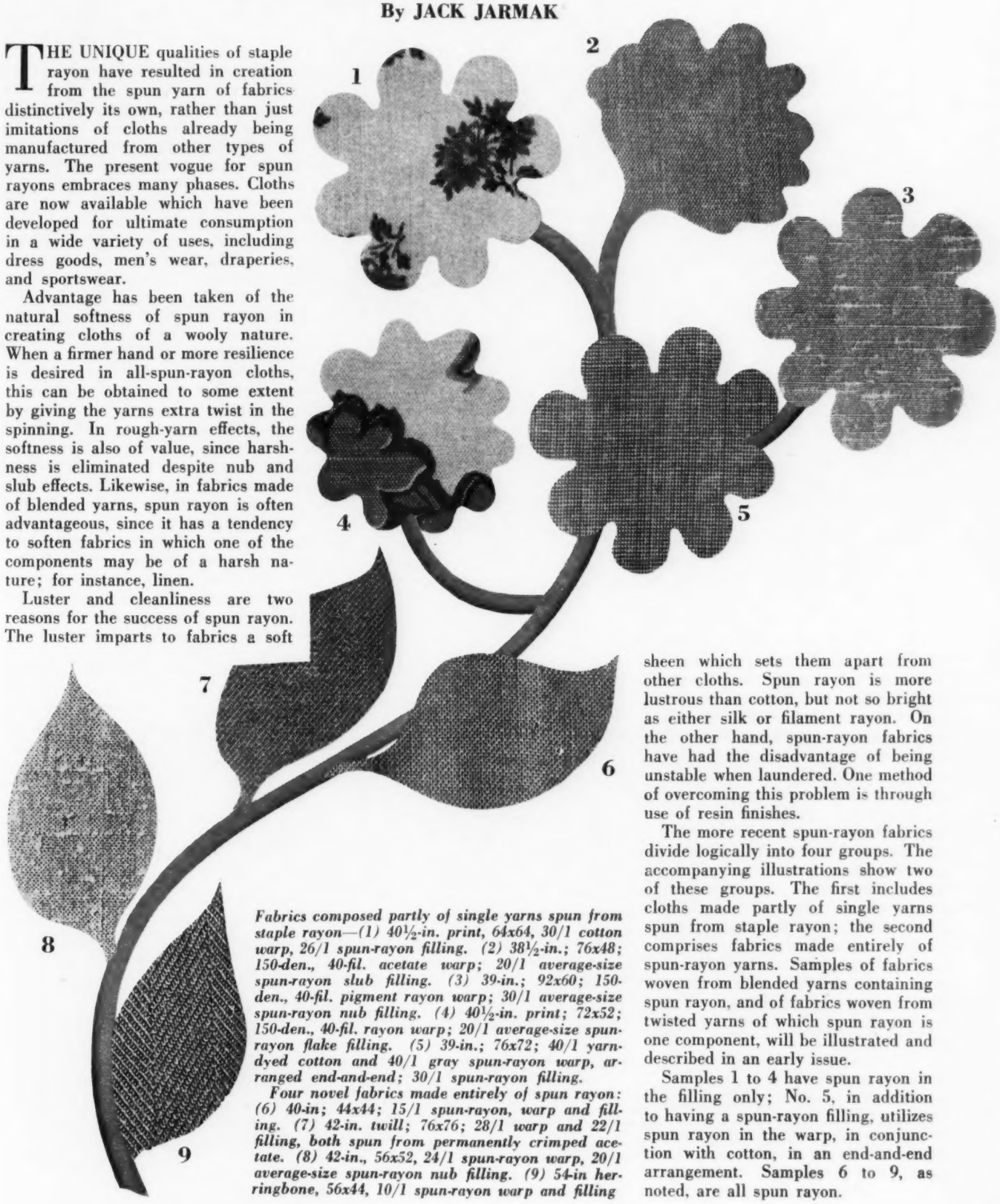
New spring fabrics for wide variety of uses made in whole or part of staple fiber

By JACK JARMAK

THE UNIQUE qualities of staple rayon have resulted in creation from the spun yarn of fabrics distinctively its own, rather than just imitations of cloths already being manufactured from other types of yarns. The present vogue for spun rayons embraces many phases. Cloths are now available which have been developed for ultimate consumption in a wide variety of uses, including dress goods, men's wear, draperies, and sportswear.

Advantage has been taken of the natural softness of spun rayon in creating cloths of a wooly nature. When a firmer hand or more resilience is desired in all-spun-rayon cloths, this can be obtained to some extent by giving the yarns extra twist in the spinning. In rough-yarn effects, the softness is also of value, since harshness is eliminated despite nub and slub effects. Likewise, in fabrics made of blended yarns, spun rayon is often advantageous, since it has a tendency to soften fabrics in which one of the components may be of a harsh nature; for instance, linen.

Luster and cleanliness are two reasons for the success of spun rayon. The luster imparts to fabrics a soft sheen which sets them apart from other cloths. Spun rayon is more lustrous than cotton, but not so bright as either silk or filament rayon. On the other hand, spun-rayon fabrics have had the disadvantage of being unstable when laundered. One method of overcoming this problem is through use of resin finishes.



Fabrics composed partly of single yarns spun from staple rayon—(1) 40½-in. print, 64x64, 30/1 cotton warp, 26/1 spun-rayon filling. (2) 38½-in.; 76x48; 150-den., 40-fil. acetate warp; 20/1 average-size spun-rayon slub filling. (3) 39-in.; 92x60; 150-den., 40-fil. pigment rayon warp; 30/1 average-size spun-rayon nub filling. (4) 40½-in. print; 72x52; 150-den., 40-fil. rayon warp; 20/1 average-size spun-rayon flake filling. (5) 39-in.; 76x72; 40/1 yarn-dyed cotton and 40/1 gray spun-rayon warp, arranged end-and-end; 30/1 spun-rayon filling.

Four novel fabrics made entirely of spun rayon: (6) 40-in; 44x44; 15/1 spun-rayon, warp and filling. (7) 42-in. twill; 76x76; 28/1 warp and 22/1 filling, both spun from permanently crimped acetate. (8) 42-in., 56x52, 24/1 spun-rayon warp, 20/1 average-size spun-rayon nub filling. (9) 54-in herringbone, 56x44, 10/1 spun-rayon warp and filling

The more recent spun-rayon fabrics divide logically into four groups. The accompanying illustrations show two of these groups. The first includes cloths made partly of single yarns spun from staple rayon; the second comprises fabrics made entirely of spun-rayon yarns. Samples of fabrics woven from blended yarns containing spun rayon, and of fabrics woven from twisted yarns of which spun rayon is one component, will be illustrated and described in an early issue.

Samples 1 to 4 have spun rayon in the filling only; No. 5, in addition to having a spun-rayon filling, utilizes spun rayon in the warp, in conjunction with cotton, in an end-and-end arrangement. Samples 6 to 9, as noted, are all spun rayon.

Nylon Hosiery

Distinguished by high elasticity, good appearance and excellent wearing quality

THAT NYLON has great elasticity, strength, and wearing qualities; that it presents an excellent appearance; that it is virtually wrinkle-free; that it dries extremely rapidly after laundering; and that stockings made of it may be washed repeatedly without material change in their original shape and smooth characteristics are among the claims made in four patents for hosiery and other knitted fabrics made of Nylon, issued to E. I. du Pont de Nemours & Co., on May 9. With the issuance of the patents, Du Pont officials asserted that the inventions represented "a phenomenal advance in the textile arts," assuring "a truly successful stocking from a synthetic yarn." The patents cover the use of polyamide yarn for stockings, pre-boarding of stockings, setting yarns and fabrics, and the use of sodium sulphite for setting.

The announcement states further that Nylon fibers are characterized by high tensile strength, high resistance to moisture, and extraordinary opposition to all ordinary solvents. In preparing knitted stockings in accordance with the patents, Nylon yarns of varying sheen may be used. The yarns may be lustrous, semi-lustrous, or dull. Nylon takes dyes used for silk, wool, cotton, or rayon. Excellent effects are obtainable with acetate dyes. Nylon is little sensitive to water spotting. Stockings made of it are essentially crease-proof under ordinary conditions.

A characteristic of Nylon hosiery is its rapid drying after laundering. Nylon absorbs comparatively little moisture. It has virtually the same strength when wet as when dry. Nylon fabrics are, however, improved by steam or hot-water setting. For instance, steam treatment enhances the elastic recovery, crimp, and crease retention. So pronounced are these effects that Nylon stockings are as smooth and free from wrinkles after laundering as when new. Although ordinary treatment requires appreciable time, it can be greatly accelerated by small quantities of a water-soluble sulphite. Thus, in a specific example, approximately 20 min. treatment with steam was required to produce high crimp retention, whereas crimped filaments taken from the same sample, but which were first

Display of Nylon hosiery is feature of Du Pont exhibit at New York World's Fair

moistened with a sodium sulphite solution, gave a product of equally good crimp retention in 10 sec. treatment with steam under comparable conditions.

Once a Nylon fabric has become set, a condition of heat and moisture more severe than the condition of set is necessary in order to effect a re-setting in another shape. Therefore, Nylon stockings are given a preliminary set known as "pre-boarding" in the desired shape immediately after knitting. The stockings are then immune to any wrinkle set during scouring, dyeing, and rinsing. Since pre-boarding is the first hot, wet treatment in the sequence of manufacture, it determines in large degree the permanent shape and smoothness of the stocking. Because the effects of setting are practically permanent, the stockings may be laundered and dried repeatedly without material change in their original shape and smooth appearance.

The word "Nylon" was coined by the Du Pont company as the generic name for all materials defined scientifically as "synthetic fiber-forming polymeric amides having a protein chemical structure; derivable from coal, air, and water or other substances; and characterized by extreme toughness and strength and the peculiar property to be formed into fibers and into various shapes."

Announced only a few months ago (see TEXTILE WORLD, October, 1938, p. 55), Nylon is being marketed commercially at present only in the limited quantity permitted by a small pilot plant located at the company's experimental station near Wilmington, Del. However, experimentally it is lending itself most satisfactorily, not merely to the making of fine hosiery and other knit goods, such as underwear, but to an increasing number of other textile products, and those differing widely from textiles.

To bring Nylon into general commercial production as early as possible, the company is spending $2,500,000 on plant extensions at Belle, W. Va., for making Nylon intermediates, and $8,500,000 on the erection of a Nylon textile plant at Seaford, Del. Both projects are scheduled for completion early in 1940. More than 650 workers are employed at present in constructing the Seaford plant and 500 on the Belle additions.

According to data given in previous patents covering manufacture of Nylon, polypentamethylene sebacamide fiber spun with 250% cold drawing to a denier of 4.9 show a tenacity at break for the fiber of 7.1 grams per denier. Spun into fabric which was stretched 100% for 3 min. while wet, this material showed an elastic recovery of 80% as compared with 32% for a similar silk fabric. At 85% relative humidity and 25% stretch, the polyamide recovered 77% as against 65% for silk. Water resistance tests showed the polyamide to absorb about 12% as much moisture as viscose rayon under similar conditions. Further data on the properties of Nylon are given in the accompanying table.

Elastic recovery of fabrics knit from silk and from polyamide yarn

			Silk recovery		Polyamide recovery	
Percent stretched	*Time held*	*Relaxation*	*85% R.H.**	*Wet***	*85% R.H.**	*Wet*
25	3 min.	1 min.	65	..	77	79
35	3 min.	1 min.	58	43	71	79
45	3 min.	1 min.	48	38	76	79
75	3 min.	1 min.	24	34	73	80
100	3 min.	1 min.	..	32	71	80
25	15 hrs.	5 min.	25	..	..	..
50	15 hrs.	5 min.	..	..	53	..

* Relative humidity.
** Wet with water.

Here are the winners in the annual Textile Fashion Show held at N. C. College, when 115 girls from nine N. C. colleges designed, sewed and modeled garments made from fabric delivered to them by students in State College's Textile School.

Student Style Show in N. C.

Annual event at State College brings out 115 garments in contest

ONE HUNDRED and fifteen beautiful college girls paraded across the stage of the auditorium at N. C. State College, Raleigh, Apr. 20, no doubt with a bit of agitation and anxiety. They not only were parading before some 1500 State College boys, which was a bit unusual, but in addition they were modelling dresses, beach pajamas, evening gowns, and bathing suits which they themselves had designed and sewn.

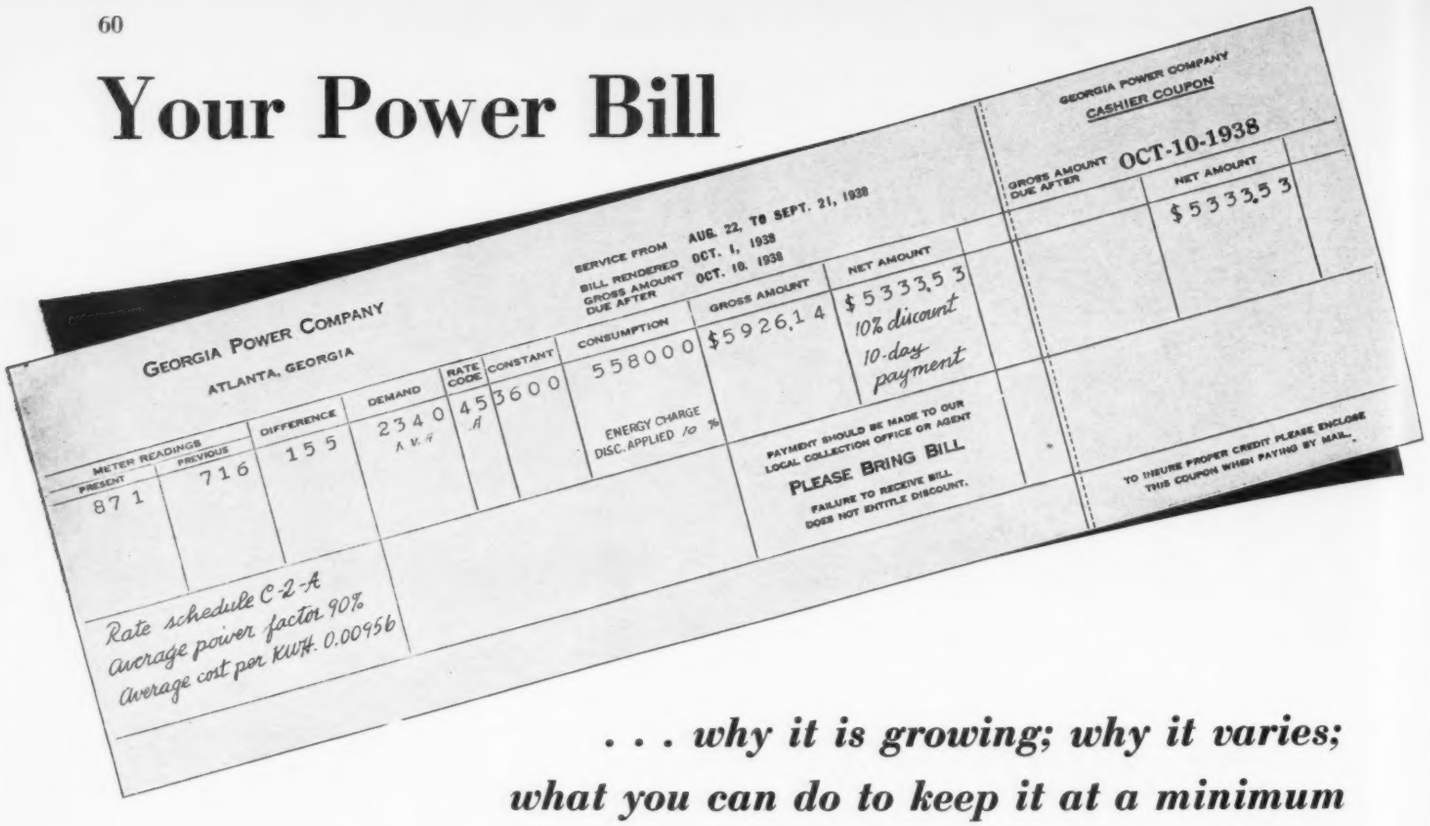
On the other hand, in that audience of boys, were a few score who also were considerably agitated and sharing the thrill of expectancy. As a new model stepped slowly across the stage, at least two boys in the group came suddenly to attention, because in each case, the girl model was wearing a fabric designed, spun, woven and dyed by two boys in State College's Textile School.

Miss Kay Castles, of Glen Ridge, N. J., a student at St. Mary's College, Raleigh, was declared grand prize winner with a simple, inexpensive cotton dress. Down in the audience, the thrill of Miss Castles was doubly echoed in gratification of J. A. Boland and Peter Ihrie, of Burlington, N. C., who had produced the neat fabric of checked blue and white, in the college's model mill. Nine other prizes, in various classifications, were awarded by the judges.

Girls at Meredith College make dresses, underwear, aprons, bathing suits out of material spun, woven, dyed by their boy friends over at N. C. State College

Claudius T. Murchison, president of the Cotton-Textile Institute, congratulates Miss Kay Castles, who won the annual contest at North Carolina State College. Dean Thomas F. Nelson of State College Textile School is at the right

Your Power Bill


GEORGIA POWER COMPANY
ATLANTA, GEORGIA

SERVICE FROM AUG. 22, TO SEPT. 21, 1938
BILL RENDERED OCT. 1, 1938
GROSS AMOUNT DUE AFTER OCT. 10, 1938

METER READINGS PRESENT	PREVIOUS	DIFFERENCE	DEMAND	RATE CODE	CONSTANT	CONSUMPTION	GROSS AMOUNT	NET AMOUNT
871	716	155	2340 A.V.A	45 A	3600	558000 ENERGY CHARGE DISC. APPLIED 10 %	$5926.14	$5333.53 10% discount 10-day payment

Rate schedule C-2-A
Average power factor 90%
Average cost per KW.H. 0.00956

PAYMENT SHOULD BE MADE TO OUR LOCAL COLLECTION OFFICE OR AGENT
PLEASE BRING BILL
FAILURE TO RECEIVE BILL DOES NOT ENTITLE DISCOUNT.

GEORGIA POWER COMPANY
CASHIER COUPON
GROSS AMOUNT DUE AFTER OCT-10-1938 | NET AMOUNT $5333.53
TO INSURE PROPER CREDIT PLEASE ENCLOSE THIS COUPON WHEN PAYING BY MAIL.

. . . why it is growing; why it varies; what you can do to keep it at a minimum

By EDWIN M. CLAPP
Manager, Power Sales Division, Georgia Power Co.

IF YOUR power bill seems excessively large when it comes in on the first day of the month, do you merely grumble and growl at the power company, or do you ask yourself why your power bill is growing, why it varies widely from month to month, what you can do to keep it at a minimum?

The electric power bill you receive periodically is perhaps the one item of cost on your slate that can be calculated to precision during each 30-day period. In a cotton mill it is appreciably less than 10% of your total selling price, but nevertheless your mind is focused on this large sum of money going out each month for something seemingly intangible.

Tells Consumption

Your power bill tells you there were so many thousand kilowatt-hours consumed during the past billing period. Instead of being unduly critical of your power company, the smart thing to do is to find out where and how the energy was consumed. You can lay a 50 to 1 bet that what the bill says is true—that the energy was actually used. The power company's billing is correct 99% of the time. The power company calibrates its wholesale billing meters every 90 days, to within 0.5% of accuracy. The power company knows that time between calibration runs with the customer; an inherent characteristic of any watt-hour meter is to slow down over an extended interval.

Why It Is Growing

In carrying out your scheme or plan of modernization every new piece of equipment you buy will consume more power than the machine it replaces. It is to be admitted you will get increased production, better product, greater labor saving; otherwise you wouldn't spend your money. However, don't growl when you sign your company's check in payment for power as per invoice rendered. Did you ever stop to think that the power to drive the blower conveying cotton from the opener room to picker room varies as the cube of the speed? Maybe you can slow that blower down a bit and still move the cotton at the rate you would like to have. It is quite possible that, due to a heavier movement of cotton, it was necessary to increase the blower speed. Do you have a supplemental cleaner between the opener room and the breakers? These cleaners do a swell job, but they take their toll in kilowatt-hours.

Have you gone to one-process picking? Sure! You get more even laps, more production, labor saving. But what about power? Do you think you can get something for nothing?

Does your boss carder believe he can get better roving by carding lighter, and make up his poundage by running the card room a third shift? That third shift doesn't run on air.

What about your card stripper—are you stripping more and more, and frequently to the point where your vacuum pump is operating practically continuously?

How about those little chunks of modernized lighting you have added here and there, using higher intensities? Money spent for better vision is an investment.

When was the last time you went through some of the houses in the village? Ask the electrical and hardware dealers the next time you go to town how many refrigerators, ranges, hot plates, space heaters, smoothing irons, fans, and radios they have sold in your village in the last twelve months. Whatever the kilowatt-hours may add up to, the cost is modest and negligible compared to better morale influenced by convenience and home contentment.

Expanding Uses

We will wager that your master mechanic and superintendent are in behind you right now trying to get you to loosen up and let them trade one of the air compressors for a larger one. Why? More and more uses for air in

the mill and shop. They probably have speeded up the present machine to get all they can out of it, not knowing they probably have more than doubled the kilowatt-hours per thousand cubic feet of air produced.

What about your electrical system? You probably have added load gradually to your feeder circuits, the results being overloaded copper, which adds its bit 24 hours per day to nonproductive use.

A good many years ago the writer learned a rule which rings true every time; namely, for each 1% increase in production in the whole or in any part of the mill, there is a corresponding increase of 2 or 3% in power consumption. The application of this rule plus the physical law—pressure increases directly as the speed; volume increases as the square of the speed; power increases as the cube of the speed—will help to explain some of the problems of increased power consumption in many a mill.

Why It Varies

Suppose we study your demand chart, it will tell us many things. The chart records the actual amount of energy consumed for every 30-min. period in the month. You will note there is a spread of approximately 10% between the average 30-min. load and the maximum 30-min. load. This in itself tells us there are things happening in the mill which keep the load from being constant. The demand chart "Sees all—Knows All"; it is a composite index, telling you every 30 minutes what is going on.

What are some of these variables? For the most part they are the accumulated sum of many seemingly minor factors; but frequently we are able to point our finger at several major factors.

For instance, one of the shop or yard hands may get behind with his pumping and use the big fire pump to get caught up. Maybe the underwriters' inspector comes around and insists that the fire pump be put through its paces while the entire load is on in the mill, and the master mechanic forgets to notify the power company. It may be that, due to dry weather in the summer, excess water is used in the village and in the mill. Possibly a certain specification for raw-stock dyeing necessitates that each batch have several additional washings and rinses. Every thousand gallons pumped represents so many kilowatt-hours—whether the water is wasted or put to some useful purpose.

What about those dark cloudy days in the winter, when maybe for a week at a time you burn nearly all of the lights all day long, as well as all night? What about the second shift going off, and maybe a lapse of an hour before the watchman cuts off everything but the pilot lights?

In the winter time, did you ever sell the weather man short and not heat the mill over the week-end, getting caught in a freeze Sunday night, with Monday morning's whistle finding the mill cold and stiff, taking until noontime to get warmed up and limber once again? You may have beat the coal man out of a ton or two of coal, only to pay out through the meter.

Do you recall some of those long hot drought spells in the summer time when you pushed your humidifiers to the maximum limit for days and nights at a stretch—maybe slipped in a few more heads? Forced humidification means additional kilowatt-hours. The chances are you would have had to shut the mill down if you didn't.

Do you ever run the shop all night and Saturday getting out a special order of gears, or brazing and machining loom shafts to start Monday morning on a special order? Don't forget, along with the shop motors, to include lighting, welder set, and one of those compressors. When the old Corliss engine was all you had to pull the mill, what did you do in a case like this?

Let's go out in the opener room. Maybe you never have a run of green or wet cotton. Maybe you never had a run of cotton plentifully supplied with burrs, stems, motes, and other trash. Your meter tells you this kind of cotton is hard to work.

Occasionally the mill is sold up solid day and night for six months ahead on constructions which completely unbalance the mill, necessitating changed speed settings all over the mill, materially increasing the kilowatt-hours per pound of goods produced.

Keeping It At a Minimum

Your power company is equally as interested as are you in eliminating waste and making efficient use of its service. Your power company knows that economic use of its service makes for satisfied customers. Customers with low unit costs, as a rule, can secure orders in competition with mills being served by other power companies. Therefore, it just makes plain horse sense, when the power company tells you it not only wants, but will do its utmost to help you make, every kilowatt hour consumed as nearly 100% useful as it is humanly possible so to do.

The meter shows you are putting the power in. Does your production sheet show you the power is being used efficiently and not being dissipated in overcoming excess friction and belt slippage? Any mill using group-drive electrical motors in which belting and shafting losses do not exceed 20% is doing a real job.

Ask your master mechanic when was the last time he used a target and really lined up your weave room or card room shafting. Go out in the mill, and at random pick any six hanger bearings and check for lubrication and bearing surface—you have a surprise in store for you. Maybe you think your heavy overhead belting is in the best possible operating condition. Maybe it is, we don't know.

More Places to Check

What about the conveyor system to the picker room? Is it tight? Those leaks cost real money.

Have you checked for loose connections in your wiring, bad fuse clips, bad contacts on your oil circuit breakers, compensators, and magnetic type switches?

Another place to look for wasted power is in worn-out gears, and gears which are meshed too deep.

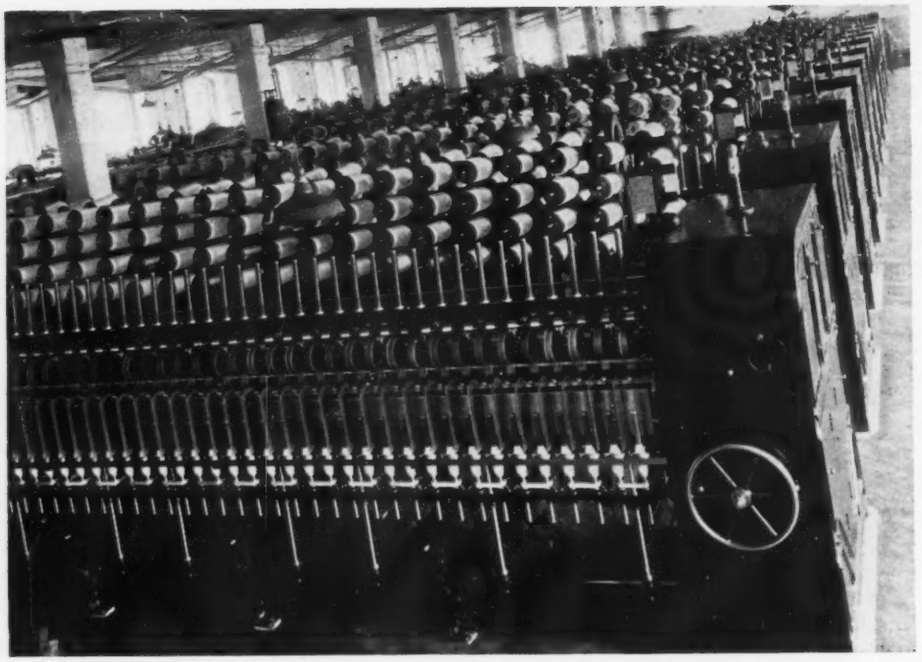
Does your purchasing agent buy just oil, or does he buy the right lubricant for the job to be done? One is penny wise and pound foolish, the other earns real dollars.

Proper shaft alignment, good belting, correct lubrication will slow down that meter.

Approximately 50% of the energy recorded by the billing meter is used in the spinning room; therefore this is the first place to look for increased power consumption. Increased spindle speed is the chief offender. Tape tension has its say. Cylinder shaft alignment is a factor. Proper leveling and plumbing of spindles saves on the power bill. Correct lubrication contributes toward fewer kilowatt-hours. You pay dearly for some types of travelers in increased usage of power. Of course, long-draft spinning has its advantages; but by the same token it takes more power.

The weave shed is another hog for power. There have been many series of tests made, which, among other things, show two looms side by side identical in every respect; but one, due to different settings, will be using twice as much power as the other. A good loomfixer can pay his freight time and again by setting to a minimum power consumption, which is chicken feed, compared to the saving bound to accrue therefrom in reduced maintenance and repair parts.

Mr. Mill man, you think you are interested in cost per kilowatt-hour, but really now isn't the matter of prime importance the kilowatt-hours per pound of goods produced? If the kilowatt-hours per pound of goods produced is at a minimum, the cost per kilowatt-hour is bound to be low.



Spinning worsted yarns true to count requires attention to all causes of variation

Variations in Count

Pointers for worsted spinners on causes and remedies of fluctuations in yarn size

By H. D. LAWRENCE

PROVIDED the choice and operation of machinery are sound, the levelness of worsted yarns is mainly dependent upon the quality of the material and the count to which it is spun. The same evenness cannot be expected from, say, a 2/48s—58s quality as would be obtained from the same count in a 70s warp quality.

Experienced operating executives can generally classify actual faults in yarns without much trouble, and suggest means of preventing their recurrence. But, on occasion, faults develop which are difficult to trace because of their rare appearance. A careful step-by-step investigation of faults of this nature, from the winders to the first can gill box, will show the cause unless it happens to be of chemical origin.

That slight variations in count are unavoidable is shown by the percentage allowances from stated count which are permitted on all yarn contracts. However, without great care in processing, these allowances may be overstepped. Perhaps half an order has passed satisfactorily through the plant, and on to the customer without complaint, when above-normal variation is reported. Changes in count affecting an entire spinning frame can be rectified immediately by alteration of the change gears in the draft gearing. But, if the variation is such that markedly different weighings are obtained from the same side of a frame, more complicated methods are necessary to insure correct count, and to these should be coupled an investigation into the cause of the variation.

No sound yarns having any marked difference in their counts can be produced simultaneously from the same side of a frame unless the rovings are varying in dram weight. Hence, when trouble is encountered, all rovings should be sorted by weighing into similar groups. If the ticketed weight is 4 drams per 40 yd., the rovings should be split up into lots separated by one tenth of a dram; i.e., 3 7/10, 3 8/10, 3 9/10, 4, 4 1/10, etc., until the whole of the variation is covered. These lots then need separate processing on machines adjusted to produce the slight changes in draft which are necessary to obtain yarn of the correct count.

After sorting of the off-weight rovings, a check should be made of the weights of the roving and drawing box deliveries. Here many possibilities arise. A rover, a reducer, or even a finisher may, due to negligence or oversight, be geared wrongly. The production of two separate drawings may have become mixed. Or, some other directly traceable defect may appear, concerning which definite action can be taken.

The following suggestions as to possible sources of variation in count, to which causes cannot readily be assigned, may be useful. Three of the most important factors are the standard of leveling-up at the weigh box, the variation in moisture content of the material, and the degree of efficiency obtained from operatives.

Due to the hygroscopic nature of wool, the amount of moisture which the material contains varies with the relative humidity of the atmosphere. Hence, any test for weight per unit-length of top, slubbing, or yarn cannot be accurately reported unless the condition of the material under test is taken into account or unless the humidity of the atmosphere in the mill in which the yarn is manufactured is regulated automatically.

Variation in weight of sliver due

to changes in moisture content would not of itself be serious, but changes made to the machines without knowledge of moisture content tend to make the yarn count irregular. For instance, even a 3% variation from normal moisture content would make the yarn size either higher or lower than standard, in some cases a full number or more. Admittedly, if the condition of the material is correct when weighings are made, any necessary adjustments can be correctly made. However, if weighings are made when the wool contains either too much or too little moisture, alterations may be made without taking cognizance of this fact. Thus, the material will either be made lighter or heavier than would be necessary if the adjustments were based on proper moisture-content information. It must also be remembered that this type of error is duplicated at the weigh box, in drawing, and in spinning—every time material is weighed either for bulk weight or for weight per unit of length.

Improper setting of the weigh box leads directly to errors in dram weight of roving and consequently in count of yarn spun from the roving. The position in the set of drawing of the weigh box is fixed by the weight of the bobbins which the operative can handle without discomfort and the ideas of the management on this matter. The duty of the weigh-box operative is to produce sets of bobbins which can be aggregated to produce a standard weight of feed for the next machine.

Sometimes, to save the trouble of changing the draft, an operative allows sets of bobbins to go forward which are irregularly balanced. This has the effect of producing a roving which is lighter or heavier than the predetermined weight.

For example, consider a weigh box bobbin measuring 12x7 in. This holds, when dragged properly, 5½ lb. of slubbing. The weight of this bobbin, empty, is 2½ lb.; the gross weight of a bobbin filled with a standard amount of sliver is 8 lb. Suppose, for instance, that each 40 yd. of sliver on each bobbin weighs 146 drams when there is no variation in sliver thickness, and three bobbins from the weigh box are required to make a complete feed per spindle at the next machine. This indicates a total feed of 438 drams per 40 yd. of sliver length.

If, however, the weigh box operative has allowed a set of bobbins to go forward which aggregated 15¾ lb. net instead of the required 16½ lb., the actual weight of feed per 40 yd. would be only 140 drams per single end. 140x3 = 420 drams per 40 yd. of feed for the next machine, which results in a roving below standard. Assuming that this variation alternates below and above standard and goes undetected for a time, roving varying considerably from standard will be produced.

If unobserved in the spinning, such variation would, on being spun to a 24s, yield counts ranging between 23s and 25s, which is an error of some magnitude. Inaccuracies of this kind at the weigh box can be traced to one of two causes: either the operative is not paying sufficient attention to his work, or mechanical faults occur which create errors in leveling up. For example, a faulty knock-off motion on the machine may allow it to over-run for one doff and shorten its running time for the next doff. This gives either extra- or under-length which, if weighed normally, nullifies the principle of leveling-up. It should be part of the drawing supervisor's routine to examine the knock-off and also to weigh all empty bobbins, discarding those which are faulty.

Operatives have been known to pass forward full bobbins of slubbing which is lighter or heavier than standard because the number of doublings at the feeds of the machines has been negligently allowed to drop below or rise above normal. This can vary the dram weight of roving much more than is often thought. A comment which is often made about this fault is that one end more or less in so many doublings is negligible, but detailed studies show clearly that slackness in this respect should not be tolerated.

Other contributory factors which influence the weight of roving are changes made in the middle of a lot in gill-box leathers; variation in weight of top and amount of moisture content on delivery; and some of the adjustments which are made to twist, ratch, and drag.

Separation of Blended Stocks

Must be prevented to avoid fabric defects

By A. C. BRADFORD

PROBABLY every mill which has occasion to blend wool and shoddy stocks is troubled at some time with the problem of separation of the component parts of the blend, and the accompanying poor results, which frequently do not become apparent until the yarn is spun, and the cloth woven and finished.

In blends in which wool is mixed with shoddy, care must be taken to prevent the tendency of the shoddy to lag behind in the picking and carding processes, since this is the cause of irregularity in the yarn, and results many times in serious imperfections, such as streaky, rowey, and cockled effects in the cloth. When such a yarn is used as a black filling across a white warp, the defects are even more prominent and noticeable.

Separation frequently takes place in the blow-room of the picker. To prevent it, many plans have been tried, none of which wholly eliminates the trouble. In one mill which was having serious trouble with rowey goods, due to the tendency to separation of the shoddy from the wool, the difficulty was overcome by making a preliminary blend of 20% wool and 80% shoddy, this being run through a breaker card. The thorough mixing of the wool with the shoddy insured a more uniform mixture of wool, shoddy, and oil in the picker room. As a result, the wool and shoddy were carried along with more uniformity in both picking and carding.

The mixture from the breaker card had a loftiness that caused it to process more uniformly. When it reached the card, the spiked apron in the feed took hold of the wool fibers; the shoddy was so thoroughly blended with the wool that the uniformity of blend was not disturbed as might have been the case if the shoddy were combined with the wool at the picker.

A small blow-room is helpful when no controlling device is used to prevent separation. Or, if the picked stock is blown into an open bin, it is possible to use a collecting hood to prevent the short and long staples from separating. If the stock is delivered a distance away from the picker, a ceiling condenser can be used to prevent separation. In addition, it will remove much dust.

Finishing Yarn-Dyed Fabrics

Scouring; bleaching, and pre-shrinking suitings having colored-yarn effects

By C. NORRIS RABOLD
Union Bleachery

TODAY THE finisher is called upon to process a wide variety of colored-yarn, suiting fabrics. Some of these fabrics are employed mainly for men's suitings, while others are used for both men's and women's wear. The fabrics include low-, medium-, and high-priced lines. They vary in weight from camparatively lightweight goods to heavy fabrics. In pattern they go all the way from pin stripe effects, to semi-solid and solid-ground patterns. The yarn numbers, twist, and weave also vary. Some goods are made from comparatively fine yarn with a rather high twist and with a close weave. Others are woven from loosely twisted, heavy yarns, many of these being made in plaid and check effects and employed largely for sports coats and ensembles. The yarns are usually dyed with sulphur colors, but sometimes with vats or naphthols, and occasionally with aftertreated direct dyes. Most colored-yarn suiting fabrics are preshrunk within the limits prescribed by the Federal Trade Commission.

Colored Stripe Suitings

Colored stripe suitings are used mainly for men's trousering, and are woven mostly in Bedford-cord constructions, although pin-stripe effects are fairly common. This type of suiting shows a stripe against a plain white or lightly tinted ground, the yarns making up the stripe being dyed with either sulphur or vat colors. Since there is a large expanse of ground, the goods are often bleached. Typical Bedford cords are: 39 in., 96x54, 1.50 yd.; 39 in., 80x52, 2.10 yd.; 56 in., 80x56, 0.95 yd.; 54 in., 72x46, 1.38 yd.; and 30 in., 142x60, 1.83 yd.

It is important that the finisher determine the class of color used in the stripe, as sulphur colors will not stand bleaching. If the colors are found to be vats, and the ground is to be bleached, the goods may be desized and scoured with soap and soda ash, either in a dolly washer or on a continuous slack washer. Vat-colored suitings are then run through warm chemic in the same manner as described in the article on underwear fabrics in the April issue. After the ground has been cleared and the fabric is free from motes, the goods are anti-chlored, washed, and opened on an independent scutcher. If the yardage is large enough, and the colors are vats, the goods may be given an open kier boil with soap and soda ash, followed by a peroxide bleach. The concentrations employed for both the boil and bleach are approximately the same as those mentioned in the article in the February issue on boiling-out and bleaching colored-yarn shirtings. If the stripes are dyed with sulphur colors, the goods can only be scoured, the time of scouring being increased over that for vat colors so as to produce as clean a ground as possible without bleaching.

After they have been opened on a scutcher, the fabrics are dried on cans and are then ready for starching. Sometimes the grounds on these fabrics are tinted in pastel tans, blues, and grays with direct colors. They are handled in the ordinary way on a pad, from which they go directly to the cans and are dried. It is customary to drop them into boxes off the pads, rather than to batch, as the weight of the goods would not permit making a very large roll. After being dried, the tinted goods are ready to go to the finishing department. In special cases, where it is desired to keep the cord effect as prominent as possible, loop or net dryers are used instead of cans.

The finishing operations are comparatively simple. In the case of a regular-finish suiting, the goods are starched and tentered in one operation. For the heavier weight fabrics, 15 to 25 lb. of corn or tapioca starch and 1 to 3 gal. of sulphonated oil to a 100-gal. mix are usually sufficient to give the desired hand. The lighter-weight suitings of this type are sometimes back-filled on a continuous back-filling range or are given a pure mix with a little more starch than that given the heavier weights. A typical 180-gal. back-filled mix would be as follows: 75 to 100 lb. cornstarch, 100 to 150 lb. talc or China clay, and 40 to 60 lb. sulphonated tallow. If this type of suiting is to be Sanforized, the mix would be much the same, except that it would be advisable either to reduce the amount of starch slightly or to increase the amount of softening materials to offset the firming-up effect given to the goods by the Sanforizer sprays.

In the case of Bedford-cord constructions, even under the best conditions, there is a tendency for the Sanforizer to flatten the cords, due to the pressure on the goods between the blanket and cylinder. Therefore these goods should be run with the face or cord side against the blanket. Depending upon the newness of the blanket or its weight, the goods may come off the Sanforizer showing "pock marks." A new blanket is more likely to produce such marks than is one which has been broken in. A heavy blanket will produce more flattening than will a lighter blanket. Due to the shrinkage in these fabrics, the finisher may find it necessary to run them on a heavy blanket and, in order to make prompt delivery of the goods to the customer, he may not always be able to wait until a new blanket is properly broken in. A great deal, therefore, depends upon the delivery dates involved and the judgment of the foreman of the Sanforizing department as to the finished appearance of such goods.

Wool-Like Suitings

Another type of suiting for both men's and women's wear is designed to simulate woolen and worsted effects and is woven in various constructions of rather high count and in semi-solid and solid-ground patterns. These goods usually contain quite a large percentage of colored yarn and are usually dyed with sulphur colors. The cost would be somewhat high if vats were employed, because of the weight of the goods and the fact that the pattern contains so much color in heavy shades. Typical medium- and heavy-weight suitings are: 38 in., 68x54, 3.00 yd., 38 in., 56x54, 3.18 yd., 39 in., 98x60, 2.85 yd.; 38 in., 128x36, 2.50 yd.; and 39 in., 118x64, 2.25 yd.

Several different methods of preparation are employed, because the fabrics may contain warp size. These goods are seldom scoured in dolly washers, as this would involve too long a working in the soap bath and too much washing down of the shade

plus the danger of the colors transferring to other portions of the cloth. Occasionally, however, they are scoured in rope form through a slack washer. If scoured in this way, they are then opened up and dried on independent cans, but should not be pulled from the bleach house over water mangles and drying ranges, because of the likelihood of marking off. It is dangerous, however, to handle these goods in the rope form, because of the large number of fine wrinkles or crease marks which result from this procedure. After drying, these crease marks show up as heavy streaks running in every direction. Sometimes after the goods have been run through a finishing mix and pulled on a tenter frame, these marks will disappear, but at other times they are set in so heavily that they show up in the finished fabric.

An alternative method is to scour at open width on a ten-box continuous machine or open soaper. On this machine, the goods are run through two to four boxes of soap and soda ash at 150°F., followed by four to six boxes of warm water at 150° F., and perhaps one box of cold water, passing through squeeze rolls between each box. They usually go continuously from the soaper on to a set of dry cans, and at no time do creases and wrinkles have a chance to form. Each soap box is made up with approximately 3 lb. of soap and 1.5 lb. of soda ash to 200 gal. of water. For feeding in, a solution of 5 lb. of soap and 2.5 lb. of soda ash is employed.

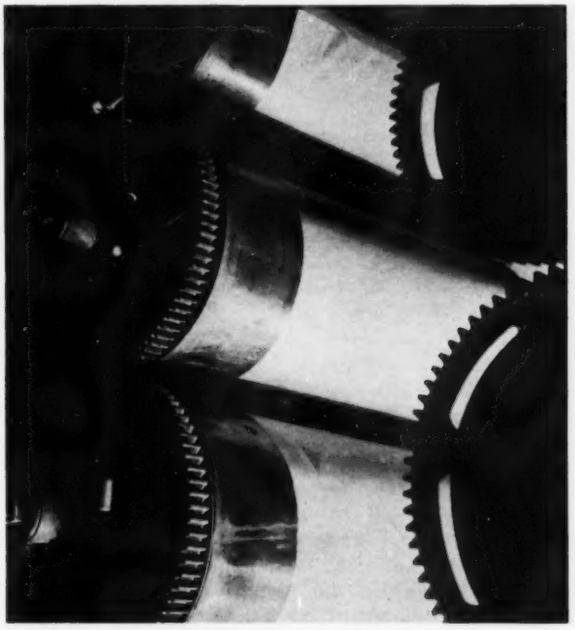
If the goods do not contain an excessive quantity of warp size, or there is no other reason for soaping them (such as for loose color), they may be sent directly to the finishing department.

For lighter-weight goods, the finishing mix will consist of 20 to 40 lb. of a highly converted thin-boiling starch or dextrin and 2 to 4 gal. of sulphonated oil to 100 gal. The heavier weights do not usually require starch, and are usually finished with 2 to 4 gal. of sulphonated oil or other softener to 100 gal.

In the case of goods that have not been scoured and do contain an appreciable quantity of sizing material, it is necessary greatly to increase the quantity of softening agents. Such fabrics may require from 5 to 8 gal. of sulphonated oil to 100 gal. It is common knowledge that if goods containing warp size are wet-out and dried, they will set up much firmer than they were in the gray; accordingly, sufficient softener must be added to counteract this firming up and to soften the goods to the desired hand. Most of these fabrics are Sanforized. Because of their comparatively high shrinkage, the goods must be run on a machine equipped with a heavy blanket, and at a slow rate of speed.

Loosely Woven Suitings

Loosely woven all-cotton suitings are manufactured in a wide variety of constructions and are used for both men's and women's wear for ensembles, sport coats, trousers, etc. The yarns are usually loosely twisted and of low number, and the patterns are designed to give a rough, outdoor sports effect. In consequence, plaids, checks, and other rustic combinations are popular. Many of these suitings are dyed with sulphur colors, although occasionally one will find direct colors employed, either for individual yarns or for the whole pattern.



After the goods have been opened on a scutcher, they are dried on cans

Due to the possible presence of direct colors, the finisher must test every lot and pattern of this type of suiting, in order to make sure it will stand his regular process. Direct colors may bleed rather badly on scouring; finishing mixes will also cause them to bleed or mark off to some extent; and even the water used on the Sanforizers may produce some staining. Staining is not likely to be noticed so much if the pattern is a solid color; but if there is much white yarn employed, these may be appreciably tinged. Since the bleeding never takes place evenly, the finisher is in danger of producing both lap-shaded and side-shaded goods, which, when cut and sewn into garments, may bring about a claim. This type of fabric is seldom scoured or bleached, primarily because the yarns in the warp are so heavy that it is unnecessary to warp size them before weaving. In consequence, the finisher has nothing to remove, and the goods are usually sent directly to the finishing department, where they are given the finishing mixes, dried, and Sanforized.

For heavy fabrics of this type that do not present any unusual Sanforizing problems, the ordinary finishing mix is merely a fairly strong solution of a sulphonated oil. If the goods do not absorb water readily, a gallon or so of a wetting-out agent can be added to the mix to insure their thorough and even impregnation by the Sanforizer sprays.

The more loosely woven fabrics require some binding agent, because of their lack of stability to Sanforizing. It is common practice to use a mix containing 20 to 40 lb. of a thin-boiling starch or dextrin with a proportionate increase in the softening agent to offset the stiffening action of these materials.

Experiments have been made with various types of synthetic resins in an effort to set the shrinkage and stabilize the fabric. Some of the synthetic resins seem to do this satisfactorily, but, because of the weight of the goods and the consequent heavy take-up of finishing mix, the resin treatment is likely to be somewhat expensive. Due to the natural elasticity and spring of the cotton fiber when woven into a fabric made up of heavy, loosely twisted yarns, the efficiency of the Sanforizing operation is greatly lessened.

It is considerably more difficult to pack these yarns together in order to bring them within the shrinkage tolerance than is the case with a more tightly woven suiting. Also, these fabrics stretch more than do the more tightly woven constructions and they arrive at the Sanforizer with more shrinkage in them. It is not uncommon to find such goods containing as much as 4 to 4½ in. of shrinkage. Since these shrinkage figures are so high, addition of some sort of binding agent is necessary so that the yarns can be contracted upon themselves and set into place.

(The next article in this series will discuss the finishing of seersuckers—*Editor.*)

Making Fancy Warps

Systematic procedure in laying-out pattern and putting yarn on section beams

By J. S. WULFMAN

A GOOD SYSTEM for making fancy warps may mean the difference between a profit and a loss for mills weaving colored box-loom fabrics. Without a systematic procedure for laying-out a new pattern, it is easy to make a mistake in the arrangement of the colors; and the misplacement of just one end in the repeat of a pattern may ruin a warp. Likewise, even though a warp may be laid out correctly, the colors may be distributed on the section beams in such a way that it is impossible to slash the warp. With this in mind, the example of a four-color Scotch plaid is offered in Fig. 1 as an illustration of the steps used in the preparation of fancy warps, and is typical of the procedure for preparing colored warps for box-looms.

By picking out the pattern we arrange Layout No. 1, from which Layout No. 2 is derived.

From Layout No. 1 we can see that if we start laying-out the pattern at the first of the repeat, with the 18 ends of white, the cloth will not be balanced, with respect to patterning. That is, at one side of the cloth there will be a full repeat of the pattern, whereas at the other side there will be only 4/10 of a repeat of the pattern. Therefore, in order to make the fabric symmetrical with respect to pattern we must lay out the pattern in such a way that there will be 2/10 or half of the 4/10 of a repeat at each side of the fabric. We will have to figure just what starting point to take in laying out the pattern, so that both selvages of the cloth will have, as nearly as possible, the same appearance. By trial and error we see that the arrangement of the pattern repeat shown in Layout No. 3 will balance the fabric with respect to selvages.

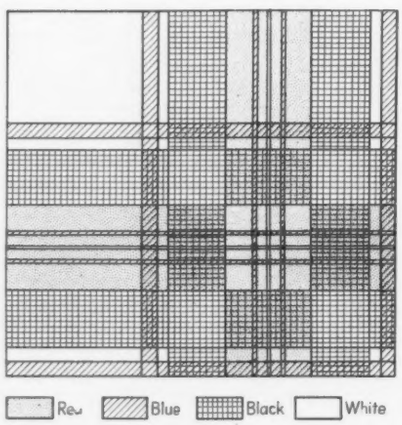


Fig. 1. Scotch plaid—32x30, 5.50 yd., 15/1 warp and filling, plain weave, four-box pattern, 36 in. between selvages, 24 white selvage ends

By using the total number of ends of color in the pattern repeat and the number of ends in the fractions of a repeat at each side of the fabric, we can figure the total number of ends of each color required for the warp. From Layout No. 2 we see that there are 24 ends of black to a pattern repeat, and we have 14 repeats and 10 ends of black over (Layout No. 3). In a similar manner the other colors are figured from Layouts Nos. 2 and 3. Total ends of each color are listed in Layout No. 4.

We see from Layout No. 4 that the total number of pattern ends in the warp is 1,152, comprising four different colors. The most logical beaming schedule for this number of ends is obtained by making three section beams of approximately 400 ends each. (It may be that some mills do not have warper creels to accommodate this number of ends, in which case it will be necessary to make four section beams.) By using the three-beam warper set, we can make two solid-color beams, one having 346 ends of black and the other having 394 ends of white. Selvage ends will be put on the beam with the black.

On the third beam we will have to combine the 240 ends of red and the 172 ends of blue. In order to arrange these colors in the most convenient manner, for both the warper creeler and the slasher tender, we will divide the colors into several sections. For convenience we will use ten sections of each color, and instruct the warper creeler to creel them in the following arrangement:

24 ends of red 18 ends of blue	9 repeats
24 ends of red 10 ends of blue	

412 total ends on beam

As the warp will be divided into 14 patterns with a fraction over, this scattering of the red and blue colors will facilitate laying in of the pattern at the slasher.

After the set is put on section beams as directed—one pattern beam and two solid-color beams—it is ready to be slashed.

(The discussion of making fancy warps will be concluded in an early issue, with an explanation of a systematic procedure for slashing and drawing-in.—Editor.)

Layout No. 1
Repeat of pattern
18 ends white
4 ends blue
4 ends white
12 ends black
4 ends red
2 ends blue
4 ends red
2 ends white
4 ends red
2 ends blue
4 ends red
12 ends black
4 ends white
4 ends blue
—
80 total ends in the pattern

Layout No. 2 a Amount of each color in repeat
White — 28 ends
Blue — 12 ends
Black — 24 ends
Red — 16 ends
—
Total — 80 ends

Width of pattern is 2.50 in.; therefore, 36 divided by 2.50 is equivalent to 14.40 patterns or 1,152 ends to the width of the cloth. (This does not include selvage ends.)

Layout No. 3 — Repeat of pattern showing starting point and ending point of pattern at the two edges of the warp

Start.....	5 ends Black	
	4 ends Red	
	2 ends Blue	
	4 ends Red	
	2 ends White	
	4 ends Red	14
	2 ends Blue	repeats
	4 ends Red	plus
End 5....	12 ends Black	32
	4 ends White	ends.
	4 ends Blue	
	18 ends White	
	4 ends Blue	
	4 ends White	
	7 ends Black	

80 total ends per repeat

Layout No. 4—Total ends of each color
(24 × 14) + 10 = 346 ends black
(16 × 14) + 16 = 240 ends red
(28 × 14) + 2 = 394 ends white
(12 × 14) + 4 = 172 ends blue

1,152 total ends in warp (Does not include selvage ends)
Check: 80 × 14.40 = 1,152 ends

Chenille Bedspread Industry

Continues phenomenal growth; reflected in wide sheeting market

Courtesy Blue Ridge Spread Co.

DURING 1938 the candlewick bedspread industry — now known as chenille — again amazed the trade by grossing an estimated $12,000,000, in comparison with around $5,000,000 during 1936—only two years before. In addition to this phenomenal expansion of sales, there have been other changes equally as exciting.

The number of companies dealing in candlewick or chenille bedspreads has increased in two years from approximately 35 to more than 80 at the end of 1938.

Production during 1938 was estimated at 3,500,000 units as compared with 2,000,000 in 1936.

Around 12,000,000 sq. yd. of wide sheeting went into these spreads during 1938 as compared with some 7,000,000 sq. yd. during 1936—one of the main reasons for a favorable market on wide sheetings when other lines of cotton-textiles were in the doldrums.

By October, 1938, a survey showed that from 90 to 95% of the chenille bedspreads were being produced in mills, whereas during 1936 at least 60% of the output was made in the workers' homes by hand.

The average spread which cost around $6 two years ago, can be bought today for $3 to $3.50 due to mass production.

Assuming that the average chenille spread of today contains 38 oz. of cotton yarn and 38 oz. of wide sheeting, it is estimated that about 8,000,000 lb. of yarn were utilized by this industry last year. Yarns used are usually 10s (10-ply) for chenille and 8s (12- or 16-ply) for hand work. Sheeting is largely 64x64s and 64x60s.

Employment in the bedspread plants has almost doubled each year since 1935 over the preceding year. Today, there are more than 7,000 workers employed inside the mills, as compared with less than 1,000 in 1935.

Two years ago at least 10,000 persons were thought to be employed by this industry in their homes. There is still some home work carried on, but it is negligible in comparison with the work done today in the plants. Each mill worker is considered to have displaced from 2½ to 3 home workers.

Wages in the better mills are comparable with cotton-mill wages under the present Wage-Hour Law. This is a better situation than existed in 1936 following the breakdown of NRA, which resulted in hourly pay dropping to 7 to 10c.

"Dip-dyeing" or direct dyeing of sheeting has come into the picture strongly during the last couple of years due to the fact it is considerably cheaper than vat dyeing. Several interesting stories are told in the Dalton area relative to the large profits which have been made almost over night by setting up plants to dip-dye chenille spreads. Conservative manufacturers feel that dip-dyeing is harmful to the whole industry since it tends to cheapen the spreads by offering unstable colors.

Handwork seems definitely on its way out except for the more expensive "heirloom" type of spread which still markets for $10 up. Even the roadside stores are offering factory-made seconds which the average tourist mistakes for genuine mountain handicraft.

As to the future of this industry, some manufacturers insist that there will always be a market for a good washable bedspread of this type. Others, who are less optimistic, remember the style swings from jacquard to rayon filling, to all-rayon, to candlewick, and now to chenille. They hope to anticipate the next trend and get in on the ground floor of whatever type of bedspread fashion decrees.

Can You Make a Profit?

Your power and steam costs may be the answer under today's market conditions

By M. K. BRYAN
Chas. T. Main, Inc., Boston

WITH some notable exceptions, there appears to be a belief in the textile industry that power-plant operating expense is not worth the serious scrutiny which is accorded other operating departments. Unquestionably, taxes, labor conditions, and excesses of productive capacity are serious problems. Liquidation has not solved the problem of profitably producing to meet the market, and the accompanying tax and labor situations. By adopting the latest developments in steam and power procurement, other industries have effected substantial reductions in expenses. Perhaps the idea that steam and power costs are of small importance in the scheme of textile mill operation should be questioned.

It appears untenable, in the light of the relations which prevail between the profit margins allowed by the market for textiles and the amounts of power plant services used to process these textiles, to assume today that power-plant operating expenses do not affect the competitive position of the mill. The quantities of steam and power required are sufficient to make the conditions of their supply, as reflected by the costs of these items, a considerable influence in determining whether orders can be profitably taken or should be refused.

The relation of power and steam costs to market conditions may be illustrated with figures.

Most orders for colored cotton goods are being placed within a price range of 1/10 to ⅛¢ per yd., with some small quantity of yardage carrying a margin of ¼¢. A colored goods mill will use somewhere in the neighborhood of 1/3 of a kilowatt-hour per yard of goods processed; therefore a variation of 3 to 4 mills per kilowatt-hour in power cost equals the range in sales price which the market will allow.

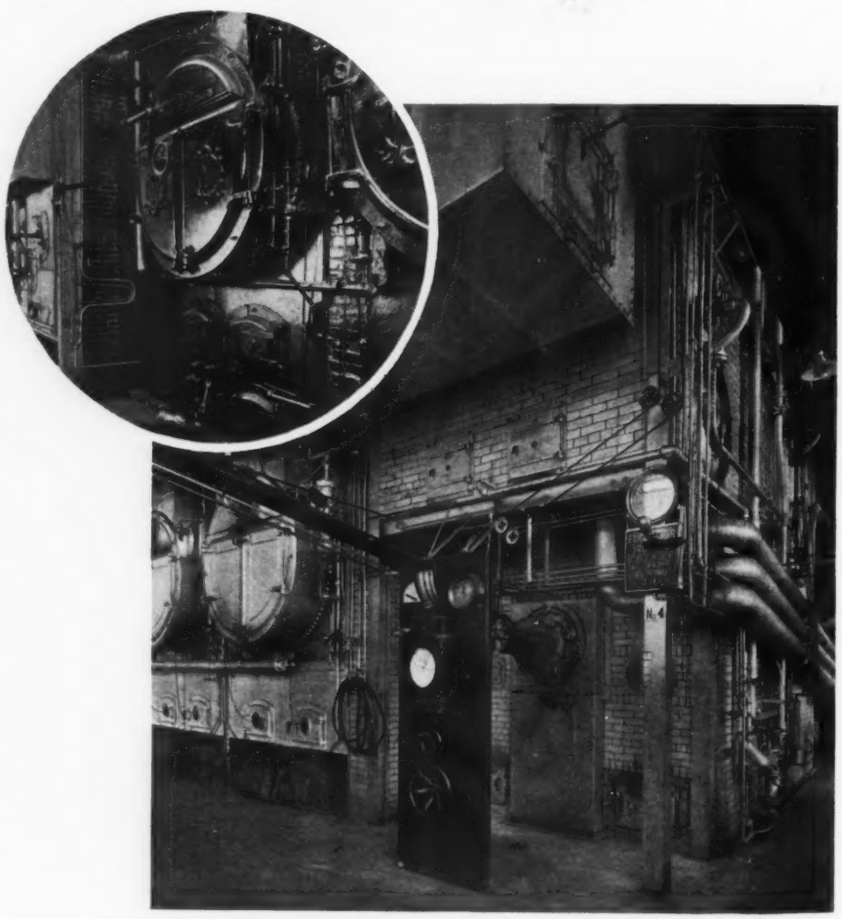
The present-day margin over the cost of bleaching and finishing probably averages less than 1/10¢ per yd., and an acceptable margin may be half of this, or 1/20¢ per yd. With steam and power costs amounting to 3/10¢ per yd., a 17% reduction of these costs—a conservative expectation when comparing performances of old and modern plants—will produce the acceptable margin of 1/20¢ per yd.

Many finishing plants average 7 to 9 lb. of steam per yard of goods processed. This steam, made in the older steam generating plants with coal costing $5.50 per ton, will cost, for coal alone, 2½ mills. In this case a reduction of only 15% in coal consumption amounts to three-fourths of the acceptable margin.

One other thought about the relationship of power costs and mill operating costs: If departmental power and steam costs are compared with departmental labor costs, the importance of the former might appear in a different light, particularly when it is found that power costs in the spinning room are about equal to the labor costs in this room. Power-cost savings, where possible, can be accomplished without human altercations and more permanently than equal percentages of labor cost savings.

During the period of its development and success the textile industry was power and steam conscious. It welcomed and adopted improvements in steam- and power-generating equipment. Since the early 1920's textile mills, by and large, have not been financially successful; and management has been unwilling to make capital expenditures excepting under compulsion. Some of the mills are again becoming conscious of the importance of power and steam costs and are taking steps to reduce these expenses.

Is your mill one of those which are modernizing their power-plant methods and equipment?



Recently modernized textile mill power plant—old boilers shown in insert

At the April Shows

GREENVILLE EXPOSITION — *Emphasis on high-speed, automatic machines; new finishing materials*

■ THREE important trends in the textile industry were reflected in the exhibits at the Southern Textile Exposition held in Textile Hall, Greenville, S. C., April 3 to 8. First was the increased mill efficiency made possible by high-speed, automatic machinery and other improved equipment. Second was the trend toward new types of finishes designed to enhance the appearance and utility of cotton, rayon, and spun-rayon fabrics. Third was the continued trend toward use of synthetic yarns and fibers in southern mills. Following is a report of the new productive equipment and new chemicals displayed this year at Greenville.

For the picker room there was shown a gyrating cleaner distributor arranged to feed directly to the picker without the necessity of using a hopper; one of these machines can be arranged to feed several pickers. A static continuous card stripping device makes use of a surface plate which is set about 1/8 to 1/16 in. from the cylinder, so that static electricity generated by the motion of the cylinder, attracts fibers and prevents their sinking into the base of the card wire; card stripping interval is increased about 400% whereas the stripper waste is decreased about 75%. New also was a cadmium-plated, high-carbon steel, card-flat chain. Another aid to carders was a card grinder equipped with silent differential motion to maintain accurate settings. Shown for the first time were a large-capacity chart lap scale; a surface-wound card feed roll using lickerin-type wire, for both cotton and rayon staple; and 5-point-per-in. lickerin wire, 12 and 16 thread-per-in. surface-wound lickerins; four- and five-leaf card gages.

One silk and rayon doubler-twister shown was equipped with individually removable drop wires, lifting traversing motion, and ball-bearing equipped motor drive with finger-tip control to insure proper belt tension at all times. Another doubler-twister is equipped with a thread aligner which reduces tension 20%, traversing motion which gives uniform balloon, and swinging centering eye. A third manufacturer has improved his doubler-twister by adding an over-end delivery for using acetate yarns from cones in production of combination yarns.

Some 2,000 loose parts have been eliminated from one silk and rayon twister shown, by means of a rail accurately machined from a single, solid piece of metal; this twister was equipped with bobbin covers instead of flyers, for protection of the yarn at high speeds. Another twister had an increased horizontal distance between spindle decks to effect lower end breakage, and was equipped with straight-line traverse motion, which, by changing the length of stroke at the fulcrum, assures straight wind on all bobbins. One manufacturer showed two twisters—one making 20-oz. bobbins at 9,500 r.p.m.; and the other making 8-oz. bobbins at 19,000 r.p.m. and both equipped with pull-hook and brake-stop combination.

Uniform bobbins are assured on both decks of a skein winder, by individual control on both traverse bars.

One manufacturer showed a 5x8-in. tire cord twister bobbin with aluminum head for steaming, over-end magazine warping spools for combination silk and rayon, and take-up fingers for silk and rayon.

For use in high-speed, large-package spinning a paper bobbin was demonstrated for the first time to be used with a special spindle; also shown was a wooden adapter for conventional spindles to permit use of paper bobbins on present installations.

Spinning frames using filling wind can be set to stop when bobbins are full by use of a mercury limit-switch featured by one exhibitor. Among accessory spinning-frame parts were seamless, no-stretch long-draft aprons; and special-finish travelers for rayon staple and other synthetic fibers. Twister parts included a cast-iron holder with binding screw for large reversible rings; bronze and steel balanced vertical travelers with oval, flat, and beveled edges and low center of gravity; bronze and steel travelers made with the ellipse rolling method; and steel travelers with special finish for rayon staple and other synthetic fibers. For comber detaching rolls there was shown a cellulose-acetate covering which needs no varnishing nor buffing. Also exhibited for the first time was a seamless cork cot of extremely fine granulation; a synthetic spinning cot and roll covering; a roving skewer with deep-sunk V-grooved shank to prevent the head from coming off; a line of odorless synthetic roll-coverings; and an improved light-weight spinning tape. An improved overhead cleaning system for spinning frames has an auxiliary high-pitch fan which cleans ceilings, overhead shafts, pipes, wires, etc.

A notable example of the trend toward high-speed, automatic machinery was the first public showing of the automatic bobbin winder described in our March issue; this machine automatically removes full bobbins and starts winding on empty bobbins without assistance from the operator; speed of the machine is approximately 2½ times faster than that of other (non-automatic) winders of the same make. The manufacturer of the automatic winder also featured a new pineapple cone attachment, a new two-piece dog, and greater clearance between the lever and stopping wheel on its precision winder.

The circulating-spindle winder for tubes and cones was demonstrated with an entirely new automatic head which is 95 to 98% efficient and enables an operator to handle 20 to 23 bobbins per min. Two other improved winders were a cone and tube winder equipped with size stop motion; and a silk and rayon coner with size stop motion which can be oper-

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Photo by Coxe

Some of exhibits at Southern Textile Exposition

ated by one hand, and an oiling attachment which regulates the percentage of oil exactly.

Exhibited for the first time in this country were two automatic winders of foreign make—one for braider bobbins and the other for filling quills.

Two new types of automatic spooler snick plates were a standard snick plate which can be adjusted to the desired amount of cleaning within a few minutes' time, and a special snick plate with quick adjustable feature and for thorough and selective cleaning. A high-speed warper was equipped with new hydraulic brake and mechanical clutch.

A positive-expansion slasher comb with accurately spaced joints permits 15 to 20% more expansion and contraction. One manufacturer exhibited a stainless-steel size kettle.

For setting twist and conditioning all types of yarn, there was exhibited an all-purpose conditioning machine equipped with an automatic feed and a separate box for giving a supplementary treatment to such yarns as are difficult to condition by ordinary methods. Also displayed was another twist setter and yarn conditioner which has had five important improvements embodied in it since it was introduced several years ago.

Of outstanding interest at the show were three new looms. One manufacturer featured a new blanket loom, and a new rayon loom operating at extremely high efficiency—both of which were described in detail in the April issue of Textile World. Another loom builder displayed for the first time a high-efficiency loom (also described in our April issue) for weaving fabrics ranging from lightweight cotton and rayons to heavier rayons, and even No. 10 cotton duck.

Shown for the first time was a loom stop-motion wiring machine using open-end drop wires, especially useful for rayon warps with large numbers of ends; this machine can be used on looms with from 1 to 8 banks of drop wires. Also new was a drawing-in machine for special flat steel heddles, and capable of drawing four banks of drop wires, six heddles, and a reed.

Silk and rayon bobbins can be cleaned at the rate of 110 per min. without damage to the bobbin, by a new quill cleaner shown in one booth. Featured also in the same exhibit was a bobbin-box hoist which eliminates manual lifting of boxes. For quill cleaners one manufacturer offered a wiper blade of cotton and rubber composition.

Also shown were a dobby chain tester which eliminates tedious checking; and an electrically operated reeding machine for any type or count reed.

Several new loom pickers were displayed, including a composition reversible drop-box picker; a sectionally molded rubber-and-fabric picker; and a magnesium-alloy picker with rubber and fabric insert. One of the leather manufacturers exhibited several improved pieces, among them a secondary bumper for woolen and worsted looms and a picker-stick bumper for rayon and silk looms. Another company showed a new type of reinforced check strap.

One company presented a line of shuttle eyes which includes a one-piece cast-iron eye for coarse yarn, an improved eye for slub and seed spun rayon, a new brass eye for high-speeds and fine yarns, and a rayon or silk eye with totally inclosed floating pads treated to prevent static electricity. Another shuttle firm showed a new nickel-on-brass eye made without front pins and designed to lock the thread securely in the eye on rayon and worsted shuttles. Then there was a shuttle grip with two bolts through it for high-speed looms. Also displayed was a new heddle frame with hooks operating in a channel line on the frame, which is said to prevent crowding of heddles around studs and to make heddles easier to adjust. A compact tape selvage harness can be removed with the warp.

For predetermined doffing of looms, a manufacturer of pick counters and other measuring devices featured a new cut meter which automatically measures cloth as it passes over the sand roll and then automatically acts to stop the loom when the predetermined length has been woven. Another company displayed three new pick counters—a double-shift and a triple-shift counter of the crank-reset type, and a triple-shift counter of the non-reset type.

Other useful weave-room accessories were an aluminum pin board for rayon bobbins; a loom brush

made from heavy fibers and equipped with a 36-in. handle; and a 1½ x 1½-in. reed square.

The continually growing use of corrosion-resisting metals and alloys in bleaching, dyeing, and finishing equipment was apparent from a number of the exhibits. One manufacturer, for example, displayed a new package dyeing machine, with kier, pump, coils, valve, pipe, and fittings of stainless steel. A second company featured a jig and a reel type dyeing machine, both of stainless steel; a third machinery builder showed stainless steel dry cans designed for high-speed drying and fitted with latest type rotary pressure joints, self-aligning roller bearings, and individual traps. Another make of dyeing machine is designed to handle cotton or worsted packages or rayon in cake form. Exhibited for the first time was a new high-speed tenter equipped with an improved automatic filling-straightening device and electric cloth batcher. New also was a high-speed extractor operating 48 to 66% faster than previous models.

For opening cloth from rope form one manufacturer featured a heavy-duty scutcher fitted with self-aligning ball bearings. Of interest to dyers and finishers particularly were a new type of water purification equipment designed to afford large savings in floor space; and an improved salt brine percolator with counter-gravity dissolver, filter settling chamber, and brine storage tank.

One manufacturer displayed a new shear with an electric stop motion and an automatic seam protector designed to eliminate cutting of seams, as well as a new inspecting machine with skylighting attachment and silent, variable-speed drive. Another company showed an improved model of the automatic shear first brought out four years ago, and also exhibited a new type of inspecting machine designed especially for convenient handling of large rolls of cloth up to 32 in. in diameter.

Of interest to finishers was an indicating-recording tachometer which gives total yards of fabric run through a machine and cloth speed in yards per minute.

Of particular interest among sewing machines was a gray-goods carrier, which produces a butt seam and stamps on the lot number in a continuous operation, and which stops automatically upon completion of seam.

A folding machine for towels, pillow cases, etc., introduced last year at Philadelphia, was again exhibited at Greenville.

The present intense interest among textile men in new finishes and finishing processes was reflected in the wide variety of new chemicals exhibited. Thus, several manufacturers featured synthetic resins for use in finishing cotton and rayon fabrics. One of these products is employed in combination with starches, softeners, talc, and other of the usual finishing materials to give a tougher, more flexible finish; since it is not a thermo-setting type of resin, it can be applied by the ordinary backfilling or pure-filling methods. Again, three companies displayed recently developed substantive softeners for cotton and rayon. Other new chemicals included synthetic wetting agents and detergents; an improved water repellent; a modified penetrant for acetate rayon; and a sizing compound for spun rayon yarns.

Partly due to passage of the wage-hour law, the business machine manufacturers were in evidence at Greenville in greater numbers than ever before. One company displayed a fully automatic time clock which prints, in contrasting colors, overtime and tardiness, and a master clock system which synchronizes all member clocks every hour. Another company featured a new calculating machine with selective carriage control which automatically tabulates to any position without hand shifting. A third manufacturer showed for the first time a complete line of calculators especially designed for use in textile mills; a standard adding machine was calibrated in eighths for cloth calculations; a shuttle-carriage machine is designed to total wages and hours or yards and pounds in separate columns synchronously; a special inventory or stock-control machine shows balance on hand, production to date, and sales to date. In another line of calculators the drums turn only in one direction, which is said to reduce wear and insure smoother operation. In one booth a portable electric check signer with a capacity of 1,500 checks per hour was exhibited, along with an improved check writer. For the shipping room, one exhibitor displayed a new non-clogging, non-settling ink for stencil work.

PHILADELPHIA EXHIBITION — *Record-breaking number of displays cover throwing, knitting, finishing*

■ AT THE 35TH annual Knitting Arts Exhibition, held in the Commercial Museum, Philadelphia, April 17 to 21, a record-breaking number of exhibitors displayed recent developments of interest to throwsters, knitters, and dyers and finishers. Particularly noticeable were the continued effort to make full-fashioned hosiery machinery more fully automatic, the increased speeds of throwing machinery, and the growing importance of warp knitting. Below is a report of new and improved equipment brought out since last year's show.

Outerwear and Underwear

New outerwear machines displayed at the show included a 28-in., 24-feed rib machine with pattern wheels, and a 20-feed machine with 10 feeds knitting jacquard and 10 feeds knitting plain rib—both for bathing suit material. One manufacturer exhibited four new machines—a 24-in., 32-feed, 18-cut automatic sinker-top striper for making plain and fancy jersey fabrics; a 12-in., 32-feed, 18-cut plain sinker-top machine for plain jersey; a 24-in., 16-feed, 14-cut wrap machine for making both horizontal and vertical stripes in various combinations of plaid effect jersey; and an 18-in., 24-feed, 28-cut loop machine for imitation chenille in plain and all-over designs.

For knitting striped jersey, another manufacturer showed an automatic machine with a gravity take-up that acts as a stop-motion, and on which colors are thrown in or out of action and the stitch cam disengages automatically to relieve pressure of the needle on the stitch when the feed is out of action. This same company displayed a 48-feed, 18-in. jersey striper, and a 32-feed, 12-in. jersey striper which can be converted into pattern-wheel machines without rebuilding. Double-overcheck patterns were being knit on a single-head, spring-needle outerwear machine with an improved clutch and brake mechanism and an electric stop-motion. A toque machine with a 4-color striper was equipped with a new stitch adjuster.

Particularly interesting to underwear knitters was an automatic double-butt and pattern-tuck machine with a striping attachment.

For the laying-in of light and heavy rubber in elastic materials, there was a device applicable to any circular machine, with a compensator or upright disk which relieves the strain from the rubber so as to feed it without tension to a shaping device before it is put into the fabric.

The knitting loom shown last year has been improved by use of aluminum for some of its parts.

With the growing demand for warp-

knit fabrics, there was keen interest in the three tricot machines exhibited this year. One of these—a two-bar machine operating at 450 r.p.m. and producing cloth having a finished width of 108 in.—is described in more detail on page 96 of this issue. Along with the 2-bar tricot machine exhibited at last year's show was displayed a new 3-bar machine which can be equipped with cut pressers to produce raised design effects. A warper for warp-knitting machines has a constant take-up speed of 1,000 yd. per min.

Automatic needle-to-needle stitch-transfer from rear to front needle-bed and vice versa has been incorporated in a full-automatic, double-lock jacquard machine. More than double production of former models is said to be obtained on a double-lock links machine with six yarn-carrier bars constructed of special steel.

Hosiery Machinery

Among half-hose machines of interest were wrap and split-foot machines equipped with a new web take-up to make the machines completely automatic, and a new elastic top attachment. One manufacturer featured a panel-wrap and needle-reverse-plating machine with a chain striper, rib interlaced rubber attachment, and color-in-color-and-beside-color wrap. The same exhibitor showed a links-and-links half-hose machine, and an embroidery-stripe machine with combination wrap and crinkle top.

Shown for the first time were three new loopers—a coarse gage, 3½-point, 2-needle looper making a 2-thread, in-and-out stitch, for sweater work; a looper making a single-thread, in-and-out stitch; and a fine-gage, 40-point looper.

Automatic welt-turners were featured by two full-fashioned machinery manufacturers. One manufacturer exhibited a machine having a motor automatically operated from a narrowing chain for bringing the welt bars into and out of operation, and equipped with an adjustable-speed motor drive.

A high-speed heeler in single-unit construction was shown for the first time; two of these can be handled by one operator. Flexible carriers were shown with the tube the same size as the spring and welded onto the spring.

Twisters and Winders

New and improved twisters exhibited both at Philadelphia and at Greenville and described elsewhere in this issue in our report of the Southern Textile Exposition include a twister with straight-line traverse motion and increased horizontal distance between spindle decks; one making 20-oz. bobbins at 9,500 r.p.m.; another making 8-oz. bobbins at 19,000 r.p.m., still another with a one-piece rail machined from a single, solid piece of metal. Also seen at both shows was an improved doubler-twister with an over-end delivery.

Photo by Genereux

General view of

Winders displayed at both expositions and described in our report of the Greenville Show include a new high-speed automatic filling winder; an improved precision winder for silk and rayon; two automatic winders—one for filling quills and one for braider bobbins; and a tube and cone winder and a silk and rayon coner, both equipped with size stop-motion.

Shown for the first time at Philadelphia was a twister equipped with 8-position tension control, automatic yarn control, pressure spring for supporting bobbin, traverse motion with variable-length stroke at fulcrum to give constant traverse speed, and pull-hook and brake stop combination. A combination skein winding, redrawing, and spooling machine exhibited winds from cones, cakes, spools, and skeins, and is equipped with a traverse that can be varied from 3 to 7 in., a 3-piece transmission in which the speed can be changed by pushing a lever, and hangers and fingers that have oil-less bearings.

Finishing Equipment

One of the most interesting of the strictly new pieces of finishing equipment was a high-speed steaming and finishing machine for tubular knit fabrics; the outstanding feature of the machine is an internal belt-conveyor arrangement designed to give absolutely straight cross-lines and put every stitch into the same perfect alignment that it had when it left the knitting machine. New also was a two-speed fabric examining machine which shows both sides of the fabric. The stainless-steel vertical-spindle package dyeing machine introduced at Greenville was again displayed at Philadelphia. An innovation last year in automatic hosiery drying equipment was a circular, rotating table having in an upright position around its edge electrically or steam-heated forms; this year two greatly improved models of this machine—one for women's hosiery and one for men's half-hose—were shown.

Among the new textile chemicals for use in processing knit goods were included an alkaline detergent recommended particularly for degumming silk and scouring acetate; a permanent hosiery finish designed to increase the life of silk hosiery, increase resistance to abrasion, impart a dulling effect, prevent tendency toward curling, and clarify the stitch; a new dulling agent for rayon which enters into chemical union with the fiber, thus giving a permanent dullness, even on dark shades; a wetting-out agent of the sulphonated oil ester type; and a synthetic detergent of high power.

Sewing Machines

A sewing-machine manufacturer introduced a machine for producing oval buttonholes with rounded ends in sweaters having narrow borders. Another manufacturer exhibited an overseaming machine which operates at 6,000 r.p.m. The same company also showed a machine for cutting woven labels into desired lengths and folding their ends over, ready for attaching to garments; with this machine, one operative can cut and fold 2,500 labels per hour.

A third sewing-machine manufacturer introduced a machine for use in production of women's gloves; this machine sews and trims in one operation, eliminating all hand work, and is said to make possible substantial savings. The same firm exhibited a high-speed faggoter operating at 2,200 stitches per min.; a corder operating at 4,000 stitches per min.; a machine for attaching tubing, split tubing, or lace running; and another for attaching fancy or novelty elastic to women's hosiery. Another exhibitor featured machines which have been adapted

Knitting Arts Exhibition

for attaching narrow or wide elastic to hosiery.

Among accessories shown were an automatic water-leveling unit for full-fashioned machines, consisting of a master trough and float valve; a sectional conditioning trough which can be furnished in either Monel metal, stainless steel, or galvanized iron; and a snarl eliminator for conditioning troughs. Three new electric stop-motions were displayed—one with individually adjustable arms, and another which will stop a 12-in. machine within two feeds when the yarn breaks at the feed; the third has been improved by application of individual, adjustable tensioning weights, which make possible separate control of each feed and addition of an end-finder with an electric-light indicator for each feed.

An electric needle-saver swings out in an arc away from the needles to prevent bending of adjacent needles. Fuzziness in fabrics is said to be eliminated by a new latch needle which will not shear the yarn. A smooth wire trip has been made part of a machine for tying silk skeins, and eliminates catching and breaking of ends. A manufacturer of cake swifts has developed one which opens automatically to the correct size.

One manufacturer had on display a new conditioning trunk with fiber sides and bottom, a metal top rim, and all-welded metal bottom frame.

Other accessories include bronze and steel balanced vertical travelers with oval, flat, and beveled edges and low center of gravity; hosiery-yarn bobbins which are 20% larger and rayon combination yarn bobbins which are 100% larger; and a high-speed, flexible-shaft needle and sinker polishing machine.

ENGINEERING EQUIPMENT — *Power transmission, lighting, etc., featured at Greenville and Philadelphia*

■ BOTH AT Greenville and at Philadelphia many of the exhibitors featured recent developments in power transmission, lighting, humidification, materials handling and other equipment of particular interest to plant engineers and master mechanics. Especially was this true at the Southern Textile Exposition, where a large percentage of the exhibits were of this nature. In the following report of new engineering developments, descriptions refer to products shown at Greenville, unless it is stated that they were displayed at the Knitting Arts Exhibition.

Power Transmission

The increasing interest among textile men in variable-speed drives was reflected in the comparatively large number of new developments in this direction. Thus, one manufacturer featured (at both shows) an a-c., adjustable-speed motor designed to give continuous speed regulation without rheostat losses, shunt motor characteristics with the speed practically independent of the load and constant torque throughout the entire speed range. Another company introduced a variable-speed control unit for a-c. motors for textile applications. A third company displayed a variable-speed motor in which speed variations are effected through changes in the diameter of the driving sheave. Other types of variable-speed devices included a unit consisting of a constant-speed motor, a variable-speed mechanism and a gear reducer; a new variable-speed drive for spinning frames; an automatic hydraulic control for range drives and similar applications where synchronized drive is required; and a special variable-speed drive for slashers.

Two manufacturers exhibited special motors for spinning and twisting frames—one a lint-proof motor with large air spaces and high velocity; the other, a self-cleaning motor. Likewise were shown two makes of loom motors with starting switch attached or built-in. Other new motors included a glass-insulated motor for textile applications and a splash-proof motor for finishing plants. For individual drives, one company exhibited an open screenless motor which prevents accumulation of lint.

For spinning frames one company displayed a high-speed silent-chain drive which operates in an oil-tight housing, is automatically lubricated, and is said to have twice the lineal speed of previous models. Also for spinning frames was an improved pivoted base for short-center drives.

New also were a line of front-operated combination starters for textile drives; a special textile switch; a transformer cooling fan with 1-hp. motor; a loom switch for motor-mounted looms; a compact circuit breaker with high interruptive capacities; a capacitor for power-factor correction; an oil-tight casing for silent- or roller-chain drive; and a belt fastener which can be easily applied with a machinist's hammer and has long points to penetrate canvas or other fabric belts and clinch on the under side. Other new power-transmission devices included a multiple-V-belt adjustable-speed-motor sheave; a pulley with demountable rims, and cork inserts to give high coefficient of friction; an expanding-ring clutch applied to the energy drive for looms; an improved V-belt with added cross-section to reduce turning; and an improved leather belt with indented surface designed to increase grip and lessen slip.

Bearings and Bushings

Several manufacturers exhibited bearings, bushings and allied materials.

Roller-bearing-equipped top rolls for drawing frames were shown by another manufacturer, whose exhibit also contained new high-load bearings for dry-can housings and for the pulley ends of woolen looms.

Ball bearings for slasher creels and spinning-frame traversing cam-followers were featured in another exhibit. At Philadelphia one company exhibited a needle bearing.

One manufacturer of air conditioning equipment had in operation in a miniature mill an improved air changer to demonstrate the uniformity of relative humidity and temperature obtained with the equipment. The same manufacturer displayed a unit for providing proper

View in annex of Textile Hall, Greenville, during show week

humidity in cotton sampling and testing rooms. Another company featured a duct system of air conditioning fitted with improved control for temperature and ventilation; and a new type of hygroscopic humidity control for moderately priced installations. Shown for the first time was a line of unit heaters designed especially for lint-laden rooms and dyehouses. New also was a steam humidifier for conditioning rooms and similar applications. Also displayed was a combination unit heater and humidifier and an improved ductless, automatic ventilation system. For use on slasher and dyehouse exhaust systems, one company featured a fan designed to overcome high pressures and resistance. The same manufacturer also showed a lint-free unit heater.

Lighting

Most spectacular of the exhibits of lighting devices were those of the fluorescent lamps which have been introduced recently, and of the companies manufacturing fixtures for fluorescent lamps. Several of these exhibits were also at Philadelphia. In one booth were featured improved daylight units for matching colors and for grading cotton. In another booth were demonstrated a new color matching lamp and a new accelerated fading unit for testing color fastness. Other recent developments in lighting were improved mercury-vapor lamps; coiled-coil Mazda lamps; and special loom-lighting and stock-bin lighting units. Another new device was a voltage regulator designed to maintain constant voltage on lighting circuits.

Among the new recording and control instruments exhibited at Greenville were included an electro-psychrometer for the instant determination of moisture content of textile fibers, yarns, and fabrics; a pneumatic loading system particularly applicable to calenders, squeeze rolls, and similar equipment; an improved system for recording and controlling the moisture content of cotton yarns leaving the slasher; recording pressure gages and thermometers; a wet- and dry-bulb thermometer operating from a resistance bulb; and a line of industrial thermometers with new binocular tubing designed to give higher magnification, wider angle of vision, and easier reading. For laboratory-control work, a combination microscope and reflex camera was displayed at both shows.

Valves and Fittings

One valve manufacturer featured a non-slam, tilting-disk, check valve available in sizes from 3 to 54 in. diameter, and up to 600 lb. pressure. Another showed stainless-steel globe, angle, gate, and check valves for acid and corrosive service; these are made in sizes from ½ to 3 in. Lubricated-plug cock valves in various alloys were exhibited by a third manufacturer. Still another showed a new bronze gate valve for pressures up to 125 lb., and steel valves for a maximum of 1,500 lb. line pressure; included in the exhibit were corrosion-resisting valves. Another exhibit contained new forged-steel socket welding fittings.

A rotary pressure joint for dry cans, slashers, calenders, etc., was exhibited by one manufacturer; as applied to slashers, this joint combines the functions of admitting steam to the rotating cylinder and at the same time removing condensate by means of a siphon tube. The same manufacturer displayed a pressure-equalizing boiler feed pump.

For machine shop and general mill use, one manufacturer displayed a new line of all-steel malleable 1- to 2-in. pipe threaders; a roller type cutter for copper and brass tubes; and an antiseptic cutting oil. Another company exhibited new adjustable pipe and bolt die heads to give 1/64 in. over or under standard thread diameters. New also was a portable grinder for machine shops with special light directed on the work. A line of flexible and shatter-proof high-speed hacksaw blades was recommended particularly for loomfixers, as well as for general use in the shop and mill. Other new devices included a tension-indicator wrench for bolts in series which require same pressure; a plastic hammer to be used where steel would mar metal; a portable automatic pipe and bolt machine with built-in power unit; and a small 150-amp. arc-welding machine.

Several paint companies exhibited new products, including a fade-resistant pigment outside paint for mill village work; a finish for mill floors which seals pores; and a one-coat mill white. At both shows one firm featured new lines of partial-gloss and high-gloss interior paints and a new flat wall finish.

Improved drinking fountains were displayed by at least two exhibitors.

Other miscellaneous equipment included a complete line of improved floor-scrubbing machines; a heavy-duty portable vacuum cleaner for blowing down and general cleaning purposes; a soap dispenser to be attached to machines; a monitor cleaner designed to eliminate necessity of manual cleaning of ceilings of monitor-type buildings; a steam gun for cleaning dyeing machines and similar equipment; an electric power gun for mill lubrication; three makes of electric hoists; a 30x30-in. portable platform scale; and a cylinder scale for mill stores.

An unusual exhibit was that of a steam generator. Likewise of special interest to power-plant engineers was a new sectionally supported air-cooled wall construction for boiler settings.

At Greenville and Philadelphia several producers of corrosion-resisting metals and alloys featured more recent applications of these products in the textile industry. Likewise were shown some of the new uses for aluminum and magnesium alloys, including magnesium-alloy rayon warp beams, traverse boards, tube frames, ring rails; and aluminum-alloy rayon spinning buckets, acid carboys, etc.

In one booth a manufacturer of an acid-resisting synthetic-resin material featured new applications of this product and showed a new alkali-resistant material for construction of tanks and vats. A manufacturer of water-purifying apparatus announced a synthetic zeolite for reducing alkalinity without adding solids to the water.

K. P. Lewis Heads A.C.M.A.

Association urges rejection of 32½c minimum—Murchison and Sloan heard

***THE SYMPOSIUM on the subject "Looking Ahead for the Next Ten Years in the Cotton Textile Industry," which was one of the important features of the annual convention of the American Cotton Manufacturers Association, held at New Orleans Apr. 13 to 15, is covered on pages 52 and 53 of this issue. The many other events of this unusually constructive meeting are interpreted in the accompanying article.*—Editor.**

■ PROPOSAL for rejection of the 32½¢ minimum wage recommended by Industry Committee No. 1 under the wage-hour law; passage of a resolution urging radical revision of the National Labor Relations Act, and election of Kemp P. Lewis as president, were among the important actions taken by the American Cotton Manufacturers Association at its annual convention in New Orleans.

J. H. Cheatham, president of the association, emphatically backed up the speakers who preceded him on the program. Referring especially to B. B. Gossett's remarks on production control, he said that no more than 14,000,000 spindles would be required if the industry were to become a three-shift industry. "I favor one shift of 48 to 54 hr.," he said, "and contend that this is the ideal way to operate a cotton mill, as the good Lord made the day in which to work and the night to rest."

Mr. Cheatham also confirmed Robert R. West's stand on the matter of industry statistics. "Statistics can be used as a guide post, and without them we are in the dark. I am now, and have always been, a great believer in statistics," he asserted.

A good portion of President Cheatham's address was devoted to a bitter denunciation of the Wage-Hour Law. "This act needs to be clarified, modified and amended, if not repealed!" he declared. "We are not opposed to paying our employees a higher wage if conditions permit. But we in the South are at a distinct disadvantage due to the proximity of the northern mills to the market and because of the discriminatory freight rates."

The National Labor Relations Act also came in for criticism by Mr. Cheatham who suggested that it be amended so as to make it "a law for both the employer and the laborer."

Murchison Opposes Subsidy

"The entire business of working out a sane, long-range treatment of the cotton problem which will preserve cotton as a commodity as well as preserve the cotton farmers, has been thrown into utter confusion by the proposal of the Administration for a cotton export subsidy," declared Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, speaking on "The Cotton Crisis." He added that this proposal was all the more surprising in view of the speech which the Secretary of Agriculture made last year in which he declared "that subsidies ought to be applied to domestic consumption rather than exports." However, Dr. Murchison personally believes the Secretary spoke originally with sincerity, and that his present stand is for reasons of expediency only.

Dr. Murchison asserted that those "groups whose major interest is cotton, beginning with the farmers," are agreed on the following constructive principles:

1. "That cotton should be permitted to find its own natural competitive price level in accordance with economic law." (This calls for restoration of a free market for cotton and is without prejudice to the acreage curtailment program, and is not intended to be in opposition to compensation benefits to farmers.)

2. "That no further expansion of Government loan cotton be permitted."

3. "That the present excessive loan stocks be reduced by gradual and orderly liquidation through the normal channels of trade and in a way which will not abruptly or unduly impair world market prices. (This assumes an indefinite period of time which might be anywhere from five to ten years.)

Analyzing in detail the proposed Smith amendment to the Agricultural Adjustment Act of 1938, Dr. Murchison said that this originally called for a maximum benefit payment of 5¢ a lb. to farmers at the time of sale, but was later revised to provide a maximum of 3¢ a lb. because of the enormous expense involved. "From the cost point of view, the only difference between the Smith plan and the subsidy plan is that in the one case we pay the money to our farmers and in the other case to foreign spinners," he said.

Dr. Murchison closed his address by warning that if the price of cotton is jacked up permanently to a level at which it cannot be competitively

Meet K. P. Lewis, New ACMA President!

CONSTANCY and persistancy might be described as two of the outstanding characteristics of Kemp P. Lewis, the new president of the American Cotton Manufacturers Association. This is borne out in the fact that Mr. Lewis took a job 38½ years ago with Erwin Cotton Mills Co., Durham, N. C., and has been with the same company ever since. He has progressed from a minor clerical position through the responsibilities of purchasing agent, assistant to the president, assistant secretary and treasurer, secretary and treasurer, and in 1932 became president and treasurer upon the death of the late W. A. Erwin. In addition, Mr. Lewis is president of Erwin Yarn Co., Philadelphia, president of Harnett Bank, Erwin, N. C., vice-president of Oxford (N. C.) Cotton Mills, and vice-president of Fidelity Bank, Durham. Mr. Lewis has been active in civic, educational and religious affairs. At one time he was president of the Cotton Manufacturers Association of North Carolina. Coming from a line of distinguished forbears, Mr. Lewis is the son of the late Dr. Richard H. Lewis, of Raleigh, N. C., who started the State Department of Health, and is the grandson of Dr. Kemp P. Battle, who prior to his death was for many years president of the University of North Carolina. The new president of A.C.M.A. is a golf enthusiast, and likes football and fishing.

New officers of the American Cotton Manufacurers Association elected last month at New Orleans convention. From left to right: Fred W. Symmes, president of Union Buffalo Mills Co., Inc., Greenville, S. C., second vice-president; Kemp P. Lewis, president of Erwin Cotton Mills Co., Durham, N. C., president; Robert R. West, president of Riverside & Dan River Cotton Mills, Inc., first vice-president.

effective, then the subsequent slaughter of cotton by substitutes would be "merely a matter of setting the gunsights."

Sloan Discusses Wagner Act

George A. Sloan, former president of the Cotton-Textile Institute, was an unscheduled speaker on the Friday session. In discussing the Wagner Labor Act, he proposed several amendments to the law which he said must be made if we are to have industrial harmony. He would have the law (1) provide equal responsibility for observance upon both employers and employees, (2) provide for an impartial fact-finding agency authorized to aid in settling disputes through conference, conciliation, and mediation, (3) provide that either party to a labor dispute shall have the right to invoke the services of such an agency, (4) provide that employees shall be free from coercion, interference and restraint from all sources and not merely from interference by employers, and (5) provide for a separation of the investigatory and prosecution functions of the board from the quasi-judicial functions.

Speaking on "The Economic Outlook," Robert Strickland, president of Trust Co. of Georgia, Atlanta, painted a woeful picture of a nation confronted with a terrific national debt and a world over which hangs the "awful figure of war." He said that a reversal of national policy might help the situation but it would be "surpassingly difficult and exceedingly embarrassing." Technological developments and enlightenment of the public, he said, may in part help take care of some of "the artificial problems of poor government."

Resolutions were adopted by the association with reference to the Wage-Hour Law, the Wagner Act, cotton export subsidies, cotton loan, trading on the exchange, and net-weight sales.

Following considerable discussion behind closed doors and announcement that small mills are attempting to organize in protest against the 32½¢ minimum wage, the association adopted a resolution calling for rejection of the 32½¢ minimum and asked that any increase in the minimum be deferred until October, 1940. The resolution further asked that the increase then shall not be in excess of 30¢ an hour; requested continuation of the 44 hr. week, but urged that there be no payment for overtime; it also asked that provisions setting up industry committees and executive orders be eliminated.

In another resolution the manufacturers proposed twelve changes in the Wagner Act along the lines suggested by George Sloan in his address.

With reference to the raw-cotton situation, the association adopted several resolutions. It opposed (1) the proposed export subsidy on cotton (2) releasing more than 500,000 bales of loan cotton before Jan. 13, 1940, and (3) the Government program to supervise and class all cotton produced in the U. S. It advocated (1) direct benefit payment to farmers from the Treasury, (2) keeping the price of loan cotton at not less than 8.3¢ lb., and (3) legislation for net-weight trading. The association endorsed in general the principles of the Smith cotton bill.

In addition to the regular resolutions of condolence, a special resolution of sympathy was adopted with reference to the late Thomas H. Webb, former president of A.C.M.A. who died at Atlanta en route to the convention.

The secretary's annual report was presented by W. M. McLaurine, secretary of the association. Included was a description of changes made in the Traffic Department during the last year, a brief account of the work done by the cotton committee, and a report of the economic, social and political activities of the association.

Arthur K. Winget, of Albemarle, N. C., chairman of the cotton committee, urged that the members of the association protest any changes in the present cotton futures contract.

W. Ray Bell, president of the Association of Cotton Textile Merchants of New York, told of work which is going forward in an effort to preserve the market for 450,000,000 to 500,000,000 yd. of cotton goods which annually go to the bag trade.

Committee reports entered into the record without being read included: Traffic, R. R. West; A.C.M.A. Student Loan Fund, Thos. H. Webb (deceased); Textile Foundation and National Industrial Conference Board, Inc., Stuart W. Cramer; General Arbitration Board, George P. Ray. Resolutions were offered by K. P. Lewis; nominations by R. E. Henry.

Election of Officers

Kemp P. Lewis, president of Erwin Cotton Mills Co., Durham, N. C., was elected president of the association, succeeding Mr. Cheatham. Robert R. West, of Danville, Va., moved up from second vice-president to first vice-president. Fred W. Symmes, of Greenville, S. C., was named second vice-president. W. M. McLaurine was reelected secretary and treasurer.

New members elected to the board of government included Norman Elsas, Atlanta, Ga., James A. Chapman, Spartanburg, S. C., Herman Cone, Greensboro, N. C., Ernest Rees, Fayetteville, Tenn., S. Marshall Beattie, Greenville, S. C. and George M. Wright, Great Falls, S. C.

Social events included the annual banquet and dance, a cocktail party at the Country Club given by the New Orleans cotton dealers, a golf tournament, and a luncheon and tour of the French Quarter for the ladies given by Myles Salt Co., Ltd. Major golf prizes were won by Frank Edwards, J. H. Bailey, Scott Russell, George Lanier, J. C. Turrell, G. A. Martin, Ed. Reed, John Reed, and George Swift.

Knitters Meet and Elect

HOSIERY PROBLEMS TACKLED—*Minimum wage, silk price, test methods, etc. considered at Philadelphia*

■ THAT THE hosiery industry is going out after its problems and is meeting them with a fighting spirit more than half way, was evidenced at the annual meeting of the National Association of Hosiery Manufacturers in Philadelphia, April 19.

The industry's minimum wage recommendations (32½¢ for seamless; 40¢ for full-fashioned) were described as sound and likely of acceptance according to Earl Constantine, who, as president, reported on many of the association's activities. He stated that hosiery marking rules were taking shape in the Federal Trade Commission and might be in effect by July 1. He pointed out that the American hosiery industry is Japan's best customer, taking 56% of *all* the raw silk shipped from Japan, and that consequently its voice should mean something in the present period of sharply advanced raw silk prices. He praised the industry's statistics as prompt, efficient and most helpful in various Washington presentations.

Austin H. Carr, chairman, opened the annual meeting with brief comment on current unsettled and confused conditions.

Following the meeting, the board of directors gave careful consideration to the suggestion that the Knitting Arts Exhibition be held biennially instead of annually. Their unanimous decision was that the interests of the exhibitors and the knit goods manufacturers would best be served by continuance of the long-established policy of holding the show annually in Philadelphia. The recent show was the 35th annual event of its kind and the hosiery association is now opening its 35th year of activity. The 36th show will open April 15, 1940. It was decided not to hold a show in the South next year.

The membership elected six directors as follows: John M. Berry, Rome Hosiery Mills; D. K. Chalmers, Holeproof Hosiery Co.; Charles Chipman, Rosedale Knitting Co., Inc.; Hugo Hemmerich, Berkshire Knitting Mills; Irving K. Hessberg, Van Raalte Co., Inc.; Nathaniel Judson, Mock, Judson, Voehringer Co.

Ernest Blood resigned from the board and the treasurership of the association because he has retired from the hosiery business. His service as treasurer had run over 18 years. In 1921 he succeeded his brother, Robert Blood, who had been treasurer for 10 years. The association presented Ernest Blood with a silver tray.

Marshall V. Moss, president of No-Mend Hosiery Mills, was elected by the new board to the treasurership. John Bromley, president of Quaker Hosiery Co. was elected vice-chairman succeeding Roy E. Tilles, president of Gotham Silk Hosiery Co. Other officers were reelected—Earl Constantine, president; Austin H. Carr, president of Durham Hosiery Mills, chairman of the board; and R. O. Huffman, president of Morgantown Full-Fashioned Hosiery Mills, vice-chairman.

H. V. W. Scott, Van Raalte Co., presented the report of the Association's Research Committee, the other members of the committee being E. N. Ditton, W. E. Emley, C. J. Huber, E. M. Schenke and W. P. Seem. The report traced the growth of the committee since it was set up. In 1936 the first intercomparison of raw silk tests in cooperation with Japan was conducted. A second intercomparison was held in 1938-1939, and plans for a third are underway. A mechanical cleanness test has been developed and it will be included in the next intercomparison.

A pamphlet, entitled "Methods of Testing Hosiery" by Max Schenke and Howard E. Shearer, this association's research associates at the National Bureau of Standards, has been published by the Bureau. "The test methods given in this circular," said Mr. Scott, "were selected to eliminate unnecessary or undesirable variations in the general testing procedure, and to eliminate confusion resulting from a diversity of methods."

In commenting on the wage-hour law, Mr. Constantine said "All things considered the law is well conceived and practical in character. Its administration to date has shown a spirit of tolerance and understanding which, if pursued, should result in the general application of the law without undue disturbances." He touched on the January Hosiery Conference and on its significance of the resolution there passed in opposition to three-shift operation; also on the Merchandising Division's recommendation as to terms, open orders, etc., offered at that same conference.

"During the year now closing," said Mr. Constantine, "I am happy to say that the industry has been free from industrial violence. Whatever developments have taken place in the field of collective bargaining, have pursued the path of peaceful and legal procedure. . . . We in management cannot very well justify and claim for ourselves the right of association for the purpose of joint action, without conceding similar rights to our workers who are our partners in our industrial undertakings. While the right to collective bargaining has been recently confirmed by law, it is an inherent right in all democracies. However, collective bargaining must be for proper things; must be conducted in an atmosphere of reason and fair play; and all parties thereto must confine themselves to the use of legal methods."

In the general discussion following the formal program Mr. Constantine gave some of the factual data on which the industry members of the Minimum Wage Committee set their arguments for 40¢ on full-fashioned and 32½¢ on seamless. Based on the Government's survey, average full-fashioned hourly earnings are 65.85¢, 5.6% of workers earning less than 30¢, 19.4% less than 40¢; average seamless hourly earnings are 35.1¢, 38.3% of workers earning less than 30¢, 48.8% less than 32½¢. It was brought out that fuller returns on the association's request for special statistics for use by the Wage Committee are needed to aid it in its fight on behalf of members. J. W. Mettler, of the committee, pointed out that in six months the minimum wage will be reviewed and that the committee will then need all available facts.

Taylor Durham, secretary of the Southern Hosiery Manufacturers Association, stated his conviction that the committee did its best in obtaining the 32½¢ minimum for seamless.

Mr. Constantine gave a word of warning on stocking-up unsold goods at the present level of raw silk prices, and he called attention to the significance of the fact that hosiery buyers seem indifferent to the rising cost

Roy A. Cheney, elected president, Underwear Institute | *Earl Constantine, reelected hosiery president* | *Austin H. Carr, Chairman N.A.H.M.* | *Ernest Blood Retiring treasurer, N.A.H.M.*

of raw material. He expressed the thought that the summer shut-downs of full-fashioned mills may well come as early as May this year and that relaxed demand for raw silk may help the situation.

UNDERWEAR MEN REGARD FUTURE—*Prepare for emergencies; study wage enforcement; re-elect officers*

■ PREPARATION for meeting legislative problems such as the wage-hour law, labeling, etc., and preparation for meeting wartime conditions, if such rise, were in the forefront of discussion at the annual meeting of the Underwear Institute in Philadelphia on April 20.

Roy A. Cheney, previously managing director, came to this meeting of the institute as its president, and was formally elected to that position by the membership, whereas his previous election was by the executive committee, which at the same time had named Ralph M. Jones (Utica Knitting Co.) as chairman. As Mr. Jones explained in opening the meeting, the extent and importance of Washington work makes it desirable for the man who represents the institute to have all the prestige possible.

The meeting was Roy Cheney's 20th anniversary as executive officer of the underwear group. "I joined you with a background of war," he said in his address, "and now we meet with a prospect of war.

"As you know," he went on, "business has been on the defensive for the last few years and most of our thinking has been to escape the things forced upon us. We must change our thinking and rather make an attack upon our problems. Where you have increased labor costs, you must have labor saving devices. Machinery people should give much thought to this situation. We must think and plan *now* in our equipment for the ultimate 40c minimum wage which will come by law in a relatively short time.

In connection with the wage-hour work Mr. Cheney had three criticisms—(1) Belief that rejection of learner minima would deny opportunity of employment to many young people, (2) if men's and boys' woven underwear manufacturers are covered by the garment committee, that action relative to the former would not be in accordance with law since they are not represented on the committee, and (3) that some members utilize the Wage Committee meetings as an instrument for collective bargaining when as provided by law they should merely seek a reasonable minimum wage.

Earl W. West reporting on the labeling situation pointed out that the institute favors wool marking, and that the industry is working on its own rules previously approved by FTC and does not want the situation disturbed.

T. J. Fitzgerald of the Bureau of the Census addressed the meeting on the forthcoming 1940 decennial census to be taken as of April 1 1940, requiring 130,000 persons in the field and nearly 8,000 employees in Washington. There will also be the 1939 biennial census of manufacturers, and the 1939 census of business covering distribution, amusements, and service industries.

E. J. McMillan (Standard Knitting Mills) urged that each man go to his own community and urge 25 or 50 people to write their views on the Labor Relations Act and the pending amendments to their Representatives and Senators.

E. L. Olrich (Munsingwear Corp.) reported on his personal investigation into shrinkage of underwear, particularly at the laundry, which recorded shrinkages from 7 to 30% in a range of numerous different brands. It was unanimously voted that a small committee be appointed to work with the Laundry Institute on this problem.

The session closed with a group of reports on phases of the wage-hour situation. Mr. Jones spoke on learner problems which are acute in underwear since it has a 20% annual labor turnover.

T. O. Moore, general counsel of P. H. Hanes Knitting Co., spoke on legal phases of wage-hour law and urged all to take full advantage of their rights under the act. He stressed that the law does not authorize a fishing expedition into any mill, as the administrator's right is only to order evidence on a matter in hand. He urged that records be carefully kept as directed and that all issues be taken up in a spirit of cooperation. He stated that the law has teeth and can be enforced in various ways.

Major A. L. Fletcher, assistant administrator of the wage-hour law in charge of investigation and enforcement, spoke at the annual luncheon. Actual inspection of every plant must wait, he said, for working out with State labor departments of a plan for use of their personnel. He said "You are as anxious as we are to do away with unfair competition by pilfering from the pay envelope, and to discourage gypsy manufacturers who take brief advantage of State laws or community subsidies." He stated that if annual incomes below $1250 were increased to $1500, the American public would spend $400,000,000 more in clothes alone.

The officers of the institute were reelected including Mr. Cheney as president, R. M. Jones, chairman; Grover C. Good (Globe Knitting Works) first vice-president; Walter W. Moyer (Moyer Underwear Mill) second vice-president; Oscar W. Gridley (Utica Knitting Co.) treasurer.

The Greenville Meetings

That of A.S.M.E. Textile Division most important from textile viewpoint

■ DURING SHOW week three textile groups held meetings in Greenville. Under auspices of the Greenville Section of American Society of Mechanical Engineers, the Textile Division of A.S.M.E. met, Wednesday, April 5, at the Poinsett Hotel. The meeting was in charge of J. D. Robertson, chairman of Textile Division, and H. H. Iler, Chairman of the Greenville Section. Papers were presented on "The Future of Lighter-than Air Craft," by F. C. Mills, Clemson Agricultural College; "New Mechanical Ideas and the Textile Engineer," by Frank U. Naughton, Jr., of Hyatt Bearings Division of General Motors Corp.; "The Fluorescent Lamp, Its Development and Application," by G. E. Park, of General Electric Co.; "Flax, Its Possibilities for the Cotton Textile Industry," by C. G. Worthington, Research Fellow, Georgia School of Technology.

On Wednesday night a dinner was held honoring members of the General Assembly of South Carolina, Greenville Section of A.S.M.E., and Textile Division of A.S.M.E. E. W. O'Brien, of W. R. C. Smith Publishing Co., was toastmaster. Speakers were J. E. Sirrine, president, J. E. Sirrine, & Co., Dr. W. P. Jacobs, president, Presbyterian College; James D. Poag, Chairman, Greenville County House Delegation; Burnet R. Maybank, Governor of South Carolina.

Lowell Textile Institute alumni gathered for a reunion at Dave Stansell's on Wednesday night. About fifty persons were at a Southern Textile Association luncheon at Poinsett Hotel on Thursday.

Summaries of the technical papers presented at the A.S.M.E. meeting follow:

Engineering Trends

Mr. Naughton, in his paper on new mechanical ideas and the textile engineer, first outlined certain problems of the sales engineer and the mill engineer; described the way in which the engineering approach was employed in applying anti-friction bearings to looms, calenders, and other equipment; and discussed probable future trends in textile engineering. An abstract of the last part of Mr. Naughton's paper follows:

Greater precision and interchangeability of textile machine parts is already on the way and will soon become standard practice. These advantages will be automatically achieved by means of the greatly improved machine tools which are being installed by builders of textile machinery. Due to faster operating speeds of present-day machine tools, it is possible to produce precision parts at no increase in cost. You are going to see an increased use of heat-treated alloy steels. Hardened and ground parts will be used where it is an advantage to do so.

More accurately ground parts will appear in machines. Hardness and finish have a direct bearing on the life of moving parts. Machines built with better-finished, more accurate parts can be safely operated at higher speeds and still give a longer, trouble-free life. In this connection it is interesting to note how hardening and grinding often simplify and cheapen design and construction. By hardening and grinding cylinder arbors of spinning frames and twisters, the rollers of bearings may be run directly on the arbor, thus eliminating the inner race and its holding collars. The cost of the bearing is cut more than in half. The outside diameter of the bearing is reduced, making possible a smaller housing. Assembly is much quicker and easier and yet the installation is not subject to wear, because the arbor has the same hardness and finish as the bearing outer race.

Use of anti-friction bearings will increase. This is only logical because it is a step in the direction of greater efficiency and machine cleanliness. Obviously, not much is gained by making parts more accurate and precise unless the bearings which support or carry these parts are also precision members. Such practice should be considered as insurance against machine wear and necessity of constant adjustment.

The textile engineer will be better trained. Colleges and universities are doing a better job every year. Engineers should study, in addition to their scientific studies, more English, journalism, psychology, accounting, and public speaking. Such studies will greatly aid them in putting their ideas across and cause the engineering profession to rise in the esteem of management. What the engineer needs is often termed the bedside manner of the doctor. Greater poise, assurance, and diplomacy will do much to raise the level of the engineering profession and cause it to move into the spotlight of attention which it deserves.

The textile engineering schools are perfecting their curricula and are turning out scores of young men in mechanical and chemical phases of textile manufacture. The mills should welcome these young men and, after proper practical apprenticeship, be guided by their counsel and ideas. A man who is encouraged and given a chance to do his stuff completely on his own and without too many restrictions will evolve ideas which will astound and greatly improve the industry.

Fluorescent Lamps

In his discussion of the development and application of fluorescent lamps, Mr. Park said, in part:

It has been found that when ultra-violet rays shine upon certain chemical powders, these powders, called phosphors, glow or fluoresce, and transform the ultra-violet rays into visible light. As mercury arc lamps are rich in ultra-violet radiation, they have been chosen as the basis for fluorescent lamps. The lamp consists of a glass tube, with an electrode at each end. In this tube is placed a small amount of mercury, and some neon gas. When current is turned on, the electrodes are heated, causing them to give off electrons, which in turn causes an arc to strike between the two electrodes. This arc consists of a small amount of visible light, and a relatively large amount of ultra-violet light. By coating the inside of the tube with the phosphor powder, we can transform the ultra-violet light into visible light.

As the use of these phosphors brings a much larger portion of the radiation into the visible spectrum, these lamps are more efficient than filament lamps. The efficiencies vary with the size and color of the fluorescent lamps under consideration.

For some reason, still not entirely understood, green is the most efficient, and red is the least efficient. In general, the daylight lamp is two to three times as efficient as comparable sizes of filament lamps. As fluorescent lamps are more efficient, converting a greater portion of their energy into light rather than into heat, there is a corresponding drop in the amount of heat emitted. By simply varying the chemical composition of the phosphors, light of any color or tint may be produced. For purposes of standardization, seven colors have been made available.

As fluorescent lamps are essentially arc lamps, each one must be equipped with an auxiliary to start the arc and to maintain it.

The advantages of fluorescent lamps may be summarized as follows: (1) They produce light of daylight quality. (2) They are distinctly cool. (3) They produce colored light at surprising efficiencies. (4) They make possible high levels of lighting where existing copper does not permit any greater load. (5) The shape of the lamp is adapted to modern designs. (6) The lamp may be used bare, because of its low surface brightness.

The science of seeing has demonstrated time and again that the eye, when permitted to choose the light it wants and prefers to work under, always chooses intensities far in excess of that in general use today. That intensities of these higher levels are desirable, not only from the standpoint of eye conservation, but also from the standpoint of over-all economy, is easily demonstrable. We must begin to think in these higher levels, particularly for close eye work, as such a future is clearly indicated. What we have lacked has been a means of accomplishing results long indicated as highly desirable. To this end we believe fluorescent lamps will do their part in helping to make this a better and happier world in which to work and live.

Discussing the possibilities of flax for use in the cotton textile industry, Mr. Worthington stated, in part:

The agricultural and industrial possibilities of flax for the South prompted the Georgia Agricultural & Engineering Experiment Stations to enter into a cooperative research program with the Tennessee Valley Authority some three years ago to investigate the adaptability of flax to southern agriculture and the utilization of the fiber by the cotton textile industry. The subject of the Engineering Experiment Station investigation is the solution of a two-fold problem: (1) extraction and preparation of the fiber from flax straw at low cost, and (2) utilization on cotton machinery.

Processing Method for Flax

A processing method that, in a sense, is a reversal of the established European procedure has been followed, "green" fiber being first extracted from the straw by mechanical scutching or decortication, and then subjected to chemical retting or degumming to prepare it for spinning.

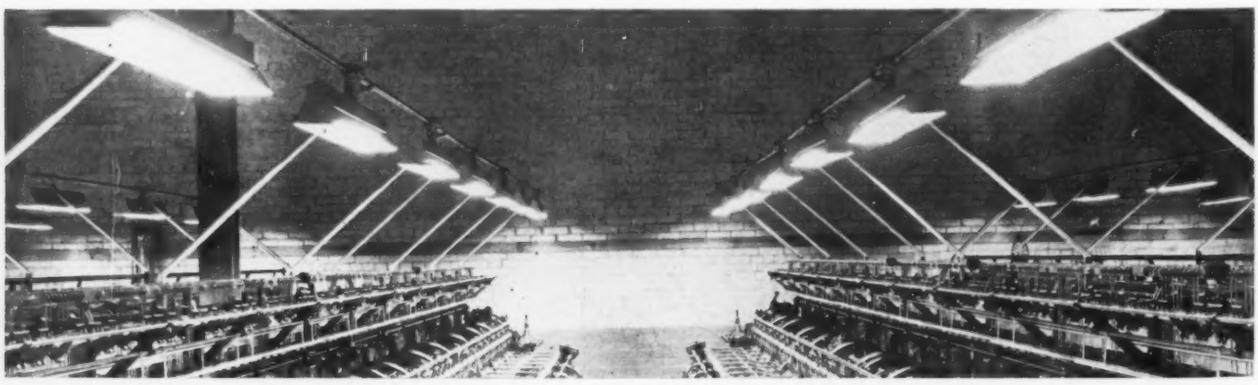
Two experimental decorticating machines have been on trial at the Engineering Experiment Station during the last year that seem to meet the necessary requirements and are suited to small-scale commercial operation. Best results seem to be obtained when the moisture content of the straw is in the range of from 3 to 5%. Our experience indicates that the straw could be economically handled and conditioned in a large storage space with a simple equipment to heat and circulate air at the moderate temperatures and low humidities required.

The method of degumming we have adopted involves an alkaline hydrolysis with a mild reducing action to prevent oxidation of the cellulose fibers. It is carried on in a pressure vessel at temperatures around 330°F. for 1 to 1½ hr. The product comes out in matted hanks of finely divided but long fibers, which are then washed and dried and prepared for spinning. The matted hanks are cut into the required staple lengths and then passed through a waste opening machine where they are opened up. This action tends to break the fibers so that a staple of variable length is produced. Subsequent processing in the card consequently results in considerable waste loss when run 100% and difficulties are met in forming a web and sliver. The final yarns also lack the uniformity and strength that are desired.

There is some question whether an all-flax yarn can be spun on the cotton system that is as even and as strong as a cotton yarn. With the improved degummed fiber that seems on the way from our experiments, and the use of certain modifications of the cotton system, we believe, however, that usable 100% flax yarns of average counts may be produced. Of more immediate interest perhaps is the fact that mixtures of cotton or rayon with degummed flax considerably improves its spinnability and the uniformity, strength, and fineness of the yarns produced.

The best possibilities for flax spun on the cotton system appear to be: (1) in all-linen fabrics of coarse grade that would go into dress materials, sportswear, and men's summer suitings; paddings and interlinings for suits and overcoats; draperies, upholstery, and slip covers; plain woven table cloths and napkins; and toweling; and (2) in blends with spun rayon for dress materials, sportswear, and men's summer suitings.

Before mills can take up the use of "cottonized" flax commercially they must be assured of an adequate and continuing supply and of a uniform quality. And so we face the old laws of supply and demand, price, and competitive products, which have killed many another promising development. We are keeping these hard facts always before us. If flax is not feasible for southern agriculture and industry, at least the reasons should be defined and published. Our findings may save the expenditure of many thousands of dollars in the future by others. It appears to us now, however, that future investigation on a broad scale may establish domestic flax on a commercial basis.



Fluorescent lamps installed in hosiery mill

THE OVERSEERS' CORNER

THE INTOXICATED WORKER

A Pete & Bill Discussion

"WELL, I did it!" exclaimed Pete.

"Did what?" asked Bill.

"Fired Jim Jones. This is the second time he's missed a day's work on account of going on a bender over the week end. I told him before that one warning was all he'd get."

"What kind of a worker is Jim when he's on the job?" asked Bill.

"One of the best in my department. That's why I hated so much to let him go. But one must keep discipline, you know."

"When did you catch him the first time?"

"About three months ago he was out a day, and I dropped by his house on the way home to see if he was sick. Found him getting over a terrible drunk."

"How old is Jim, Pete?"

"I would say that he's in the neighborhood of 40," replied Pete.

Bill continued to make inquiries. "Does he look after his family? Is he in debt? Does he cause trouble in the village when he's on a tear?"

Pete replied that he was not in debt, that he cares for his family, and that he is a peaceful, law-abiding man. His only trouble lay in getting drunk and missing work occasionally.

"Pete," added Bill, "who are you going to get to replace Jim?"

"That's what worries me. I don't know. But I've got to replace him."

Bill gave Pete a withering look. "It's none of my business, Pete, but I'd give a man like Jim Jones a couple of days a month off if necessary just to keep him in the organization. You don't find workers like him everyday; and if he is no worse than you say I think you're foolish to fire him."

"That sounds all right, Bill, but he's fired just the same. I won't tolerate absence from the job for any such reason as a hangover. It's bad business all around and causes resentment among the other employees. They will start laying out too if they think they can get away with it. I'll handle this *my* way!"

How should the overseer handle intoxication among employees?

Letters From Readers

Visitors in the Mill

("Visitors in the Mill," Pete & Bill, March, 1939.)

Editor, Overseers' Corner:

I believe that Pete has adopted the right attitude relating to casual visitors in a mill. Visitors should be allowed to view the interior of a mill and get an insight into the process of manufacture. Nature has endowed every human being with the desire to see as much as possible. To discourage this wish of a visitor is to create bad feeling between those concerned. "No good can come from an ill wind" is an axiom which wise ears harken unto. In the present day, systems of manufacture are mostly standard throughout the nation. When a foreman shows a visitor around the shop it exemplifies the pride and enthusiasm he and the employees take in their work. When the overseer fails to point out his organization, the thought reflects in the visitor's mind that this department is either poorly managed or secretly operated. The only time the superintendent should shroud any secrecy about manufacturing is when a certain operation is either in an experimental stage or is an exclusive process. There is always the remote possibility that the visitor might make a valuable suggestion. We may think ourselves perfect, but it always takes others to point out our faults.

—SIDNEY STEIN
(Massachusetts)

Secrets Are "Bread and Butter"

("Secret Processes," Pete & Bill, January, 1939.)

Editor, Overseer's Corner:

I agree with Bill when he says to keep one's secrets well-guarded since they are one's meal ticket. He would be throwing his job away if he should start to broadcast his secrets to his assistants by letting them look over his notebook. In our present day any ambitious young man can learn more in six months than we could have learned in six years. Any young man who is interested in textiles and wishes to become an overseer will find the road clear with all information required for his goal.

I remember when I was a second hand on worsted spinning 18 years ago. I was willing to learn not only to change gears and overhaul them, but wanted to learn how to make yarn. One day I had to see the overseer for some reason and noticed him reading a book which was entitled "Overseers Book for Worsted Yarn Manufacturing." When I asked him the price, he said that those books were out of print and no longer available. Not until a few years later was I able to obtain one, but with little information. Now we have books with all the information, so why should Bill leave his notebook on his desk?

—J.C.
(Rhode Island)

Safety Ideas From School Children

Editor, Overseers' Corner:

You might be interested in having my experience in developing ideas for accident prevention. My boy brought me this idea. I don't know where he got it, but it struck me as good—and it worked. He knew that I was worrying about the accidents we were having in the mill of which I was superintendent at the time. It was over in

***CONTRIBUTIONS** to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.*

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eastern North Carolina. Our rate had been stepped up several times by the insurance company and our accidents kept increasing. Finally, it reached the point where they actually threatened to cancel all our accident insurance, so naturally I was worried.

W. H. Gibson, Jr., superintendent of Martha Mills, Silvertown, Ga., discussing employment and safety problems with Martha Gibson, personnel director. (Miss Gibson is no relation.)

Well, anyhow, I thought it was worth trying, so I went directly to the school teachers and sold the idea to them and got their enthusiastic support. Later developments proved to me that this was not only desirable, but almost a necessity.

We bought 24 nice pencil boxes, wood boxes with rulers, pencils, erasers and pens, all very handsome and useful, and offered them as prizes to the twelve boys and twelve girls in the seventh grade, or below, who would give us the best ideas about "How to Prevent Accidents in the Mill." Out of 458 pupils we got 380 papers. And we got ideas. We didn't attempt to judge composition, nor penmanship, nor anything other than ideas. But there were some original ideas suggested and some mighty good ones. These children went home looking for them and they gave their parents no rest. We got ideas that had been buried for 20 years. We put 'em to work and in 60 days our accident rate fell 75%.

I have also tried the same scheme in the larger mill, of which I am now general superintendent, and again have gotten splendid results although not as pronounced a drop in rate of accidents as I did in North Carolina. This is partly due to our rate being much better here to start with. If you want ideas you don't have to go far to get them; they are right in your own village. All you have to do is dig 'em up, and the best digger-uppers I've found are the school children.

—W. H. Gibson, Jr., *Supt.*
Martha Mills
Thomaston, Ga.

Safety for Maintenance Men

The safe maintenance and repair worker avoids injury on his job by doing the following:

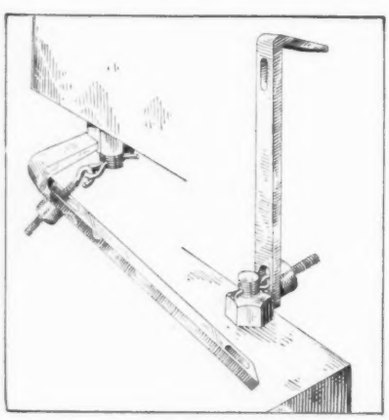
1. If he is to work on any power-driven machine or other power equipment, he makes sure that it is locked or otherwise out of commission, and that it cannot be set in motion without his permission.
2. He wears snugly fitting clothing and any other protective clothing that he might need, such as rubber gloves, goggles, etc.
3. He uses only safe tools in good condition and carries all knives closed or in a sheath.
4. He is especially careful of electric shock hazards and uses only portable electrical equipment which inspection shows to be in good condition.
5. He does not overload hoists, ropes, chains, scaffolds, ladders, or other equipment or structure which he may use to support loads.
6. He never works alone under conditions which he knows to be extraordinarily hazardous, such as hot lines.
7. He keeps his hands away from moving machinery.
8. He tests all lines for current before handling same. He makes sure that test set is for proper voltage before using.
9. When there is a chance for electric shock, he stands on dry wood or other insulation material.
10. He places extension cords or electric cables so that others will not trip over them.
11. He knows loose or hanging wires are dangerous and repairs them as soon as possible. He uses only equipment that is well insulated and in good mechanical condition.
12. He is careful not to hold onto damp pipes or other damp material when working around electrical equipment. He treats all wires as live wires. He avoids handling electric equipment, wiring, or lighting fixtures when any portion of his body is grounded.
13. He exercises care and judgment when working on or near power lines or electrical apparatus. He does not assume any line to be dead—he makes SURE.
14. When handling electrical equipment, he does not depend upon insulation—it may be defective. He takes all the precautions the same as though live part was bare.
15. He is thoroughly familiar with methods of resuscitation, for he knows he may be able to prevent a death.
16. He never closes a switch without full knowledge concerning the circuit, and why the switch was open.
17. He never starts any motor without making sure that no one is in a position to get injured by it.
18. He never bridges a fuse and never uses one heavier than the capacity of the circuit. He installs all wiring, etc., in accordance with the best safety standards and ordinances.
19. He stops people from tampering with electric apparatus.
20. Before placing the repaired equipment in service, he sees that all safeguards are in place and everything working O. K.
21. He does not leave tools or other objects on the floor. He keeps the floor clean where he is working.
22. He keeps his mind on his work and reports all unsafe conditions, practices, or defects to his overseer.

—*National Safety Council*

Overseers' Practical Helps

Handy Puller for Large Cotters

Here is an idea that the maintenance man of a southern mill showed to the writer while on a visit with him. He made the little device from a piece of flat bar steel ¼ x ⅝ in. in dimension, drilling and slotting as shown, and then forming the end heel. The cotter hook is made of drill rod, threaded and tempered for strength; the hook is fitted with a knurled thumb-nut.



Two methods of using device for pulling cotters

The sketches tell the story of the device's use better than words. The hook is fastened into the cotter eye and slipped through whichever slot in the bar is handiest. Then the thumb-nut is applied and adjusted; as the cotter is drawn out the nut can be adjusted further to give more travel. This device will pull any cotter, and is most useful in difficult places. It saves the cotters for re-use, and prevents injury to threads of the bolt.

—C.H.W.
(New Hampshire)

Preventing Chafed Rayon Yarns

Chafed yarns on quillers, winders, redrawers, etc., can frequently be traced to the porcelains. They will often be cut, so finely that it is difficult even to see the cut. However, the sharp edge of a pocket knife, placed in the center of yarn path and moved back and forth, will disclose any roughness. The best method of avoiding this trouble is to change the

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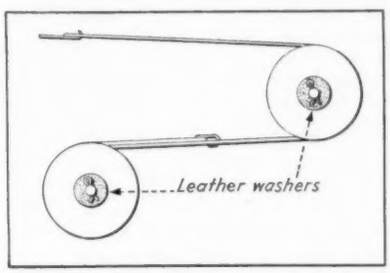
porcelains at stated intervals, even though some may not yet be worn through the outer glaze. When changing porcelains at such specified times, change from one color to another over the entire machine. This will indicate that the task has been completed as instructed. For example, change from white to green, and back again on the next change. Discard all porcelains removed.

This procedure is not as expensive as it sounds. Porcelains wear for a considerable length of time before requiring renewal and, although a few good ones may be thrown away, the better grade of yarn produced will compensate for the difference many times over.

Saving Cotter Pins

Here is a kink I have been using successfully for some time. When using wooden harness blocks on looms, the washer often sticks to the block and, in turning, soon cuts the cotter pin off. Leather washers placed between the metal washers and the



Leather washers protect cotter pins

cotter pins will act as buffers and prevent this. The washers can be made from broken check straps or belts. Short pieces of pipe of the proper diameters can be sharpened to make serviceable punches for cutting these washers.

—W.C.W.
(Georgia)

Salvaging Broken Roving Cans

What to do with fiber roving cans which become broken to such an extent they cannot be used for roving, and yet are not ready to be consigned to the junk heap, has been a problem for many mills.

We have found many uses for cans of this kind, and some of these are listed below. Cans broken near the top can be cut down to a height so that they can be placed under the ends of roving frames and used as waste cans. Also, such cans, cut down and repainted, can be used in supply and stock rooms as containers for small articles such as nails, bolts and washers. They also make ideal waste baskets.

Even cans which are badly broken can be salvaged to some extent by making fiber washers out of their portions which are undamaged.

—R.J.F.
(Massachusetts)

Questions & Answers

Loom Setting for Poplinette

Technical Editor:

We are weaving a poplinette on 45 in. Pemberton looms (plain). We use a 111's reed, 3 ends per dent, 38.5 in. wide in reed, 16 picks per ¼ in. We are using 39s Egyptian combed warp, and 30s filling. Would you be so kind as to tell us the correct speed of the loom for this class of cloth? (8602)

The trouble may not be altogether due to the loom speed, but to the loom settings. The following suggestions are offered as possible solutions. This fabric should be woven on 4 harnesses, with staggered cams, at about 126 picks per min. Approximately 8 looms should be assigned to each weaver. Heavy drop wires should be used. The harnesses should be timed early. Whiproll and take-up roll should be set as low as possible, so that the warp will be perfectly level from whiproll to breast beam.

Fancy Doupe Weave

Technical Editor:

The attached drawing illustrates the weave of a scarf we are anxious to make although we do not have a sample of the cloth to go by. This weave repeats on 8 warp ends and 16 picks. Each scarf is about 9 repeats of the weave wide, and there are six scarfs across the reed-space. In producing this effect the 8 warp ends do not weave for a few inches, then 4 of them cross over the other 4 and 2 picks are inserted. Following this, the 4 ends cross back, again do not weave for a few inches, and then weave plain. The four warp ends which work together are much closer than sketched.

This looks like a leno twist to me, as each four has that side movement or doupe. We have no trouble making doupe binding on the edges of the scarfs, but what puzzles us is how to get, with our Gem Head looms, the space, four-end turn, and two picks in the middle of the turn.

We hope it may be convenient for you to procure the necessary instructions for weaving this fabric, and thank you for past favors. (8514)

A leno weave such as this can be made with either a twine doupe or a steel-heddle super doupe. This cloth can be made on Gem Head looms. The drawing-in draft is illustrated at Fig. 1, the chain plan at Fig. 2, and the effect produced in Fig. 3.

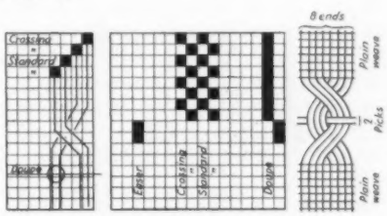


Fig. 1 Fig. 2 Fig. 3

It will be necessary to devise some means to let the warp slack and turn the take-up gear the required distance for the empty space between the plain weave fabric.

Uses for Rayon-and-Wool Card Waste

Technical Editor:

I would like some information regarding a fabric I understand is used for interlining caskets. This cloth, I believe, is made of a cheap grade of wool stock. Can you give me an idea as to the blend used, width, and weight per yard? Any information you can send will help me very much as I have a lot of rayon-and-wool card wastes and wish to make same into a low-grade fabric. (8561)

Fabric for interlining caskets is made of inferior quality rayon yarns, in widths of 39 or 40 in. The weave employed is usually twill or plain, and such fabrics are generally piece-dyed and of second quality. They are priced very low.

To the best of our knowledge, and upon inquiry in the trade, we find that a combination of rayon waste and wool card waste is never employed in fabrics of this nature. As a matter of fact, we do not believe this type of fabric is suitable for woolen mill equipment and, owing to its low price, we fail to see any material advantage to be gained by entering this field. It seems to us that a combination of rayon waste

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and wool card waste could be much more advantageously used in other fabrics offering a larger field of distribution and better financial return. Experimentation in cheap women's- or boy's-wear fabrics suggests a possible and suitable market, especially since the present trend is toward rayon and wool mixtures.

Voile Constructions

Technical Editor:

Will you please list for me some rayon voile constructions? I am especially interested in the turns of twist used in both warp and filling. (8606)

There are so many different kinds and types of voile it is impossible to tell without more detailed information the types in which you are particularly interested. We list below three possible constructions; perhaps you will find in them the data you desire.

Construction No. 1—warp, 40/2, 80 ends per in., 40–45 turns per in., 150 den.; filling, 60 picks per in., 40–45 turns per in., 150 den.

Construction No. 2—warp, 35/3, 105 ends per in., 40–45 turns per in., 100 den.; filling, 52 picks per in., 40–45 turns per in., 100 den.

Construction No. 3—warp, 45/3, 135 ends per in., 35–40 turns per in., 100 den.; filling, 64 picks per in., 35–40 turns per in., 100 den.

Wool Blanket Sizing

Technical Editor:

We have never used a filler or sizing for our wool blankets. However, we have now to compete with a cheap, gray blanket. The blanket is to be 64 x 84 in., all wool, and the finished weight about 4 lb.

Please advise us what filler or size should be used, when in the manufacturing process it should be applied, and how and in what proportions it should be applied? (8530)

Some very cheap gray blankets are neither fulled nor scoured but finished in the grease. These are stiff enough to go without any size. They are hard on the napper rolls, but it is an economical way to handle them. Other grey blankets, that are fulled and scoured, are napped in the usual manner and given a run over a dewing machine with a heavy spray of water, which adds to the weight and adds a degree of firmness.

When sizing is used, it is always applied in the cloth washer just before the fabric is ready to be taken out. The sizing is usually dissolved in hot water, a pre-determined amount in a 50 gal. barrel, and a pailful to each piece or more, according to the strength of the size, to obtain the right feel. A little of the rinsing water is left in to mix with the sizing so the goods will not run too dry.

Your chemical house will be able to supply a good size, with a definite formula for handling.

Defects in Full-Fashioned Hosiery

Technical Editor:

I am enclosing a leg of a 42-gage full-fashioned stocking with 6-thread welt, 4-thread main, and 8-thread splicing. The fabric shows a noticeable distortion of loops. Can you help me to analyze this trouble? This machine was resinkered about a year ago, and the trouble does not occur on every section of the machine. (8601)

Our inspection indicates that the machine is not properly set up. Apparently, the stitch is not casting off clearly. While this defect can be corrected by several different adjustments, we suggest the following procedure.

Check the needles with the needle-height gage; then gage the knock-over bits. Next, check the forward position of the catch bar. The character of the stitch in the sample indicates that the nose of the sinker is releasing the loop too late; this is caused by the catch bar being too far forward. Too much press on the needles also would delay the release of the loops from the sinker nose; the press should be gaged. Sometimes too much wear on the roller take-up tension will cause distorted stitches.

If the silk is conditioned so that it runs satisfactorily on one part of the machine, it should be suitable for the whole machine.

Lacing Condenser Tapes

Technical Editor:

We have been using a No. 25 condenser-tape lacer for some time with very good success. Our practice has been to use the No. 25 lacer for quick, speedy jobs, while the machinery is in use, and then to splice the tape in a regular way on week-ends, when the cards are stopped.

We would like to leave these lacers in the tape as a permanent fixture. Have you any service records showing how long lacers of this type hold, and to what extent they damage the dividing rolls? Also, if you have any information as to the practices of other mills with tape lacers, we would appreciate it if you would send it with your reply. (8558)

We believe users have no cause to worry about the wearing of dividing rolls by tapes laced in the manner described above. Those in close touch with this method of lacing tapes both on condensers and spinning equipment, since it was first developed approximately three years ago, state there has been no evidence of wear on either dividing rolls or spinning-frame cylinders, and that users can expect the lacer to hold the entire life of the tape. We are also informed that woolen mills are rapidly adopting the use of lacers of this type.

Elastic Yarn Crinkles in Dyeing

Technical Editor:

Inclosed you will find a sample of cotton-covered rubber yarn. Our customer, the manufacturer of the yarn, asserts that we spoiled the yarn in dyeing. As you will note, one skein is badly crinkled and the other is nice and straight. Both of the skeins were dyed in same batch together; part of the lot came out crinkled and the rest straight. We received the goods in in the natural state and boiled out the yarn, with a 1% pure olive oil soap added to the water. After the goods were wet, we dyed the yarn at 120°F. for 30 min., extracted the yarn, and dried it at room temperature. The only chemicals used in the dyeing were aniline color, glauber salt, and a small amount of olive soap. Is there any way of overcoming this crinkling of the yarn? (8596)

The dyer of this yarn cannot in any way be held accountable for the crinkling of some of the skeins. The crinkling is due to the fact that the skeins which crinkled had too much twist put into them. This can easily be proved by a test on an ordinary twist counter. In case the argument is raised that all the yarn was twisted at the same time, it will be necessary to investigate the original yarn and see whether all of it was S twist or Z twist in the first place. If the original yarn was a mixed lot, the new twist would add on to some skeins and subtract from others. It is a well-known fact that by incorporating a high degree of twist in filling yarns, the wet processes will cause it to shrink and produce a crepe effect in the fabric. For every class and count of yarn there will be found a degree of twist which may not be exceeded if the yarn is to stand wet processing without crinkling.

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Use of Rayon Staple

Requires correct speeds and settings and careful control of humidity

By J. L. BRANNAN

IN HIS article, "Spinning Rayon Staple", which appeared in the March issue, Mr. Brannan discussed speeds and settings for rayon staple which he has found to give good results in the preparatory processes. Speeds and settings for spooling and warping, and humidity which he uses for rayon staple in the various departments of the mill, are discussed in this article.

SPOOLING and warping 1½-in., 1½-denier viscose rayon staple yarn, as discussed by Thomas A. Hubbard in his article "Adventures in Spooling Spun Rayon," in the February, 1939, issue of TEXTILE WORLD, just about describes my own experiences and opinions. However, we have slightly different operating conditions at our warpers; i.e., we warp 25,000 yd. per beam at a speed of 500 yd. per min. We operate our spooler drum at a speed of 1,500 r.p.m. These are the same speeds that we were using for cotton.

At first we found that we had much more fly with rayon staple than we had been having with cotton. Therefore we opened our spooler slub catchers or snick plates from 0.032 in. to 0.035 in. After this, we got along fine. These settings are for 25s and 30s yarn. Our percentage of throw-outs for spun rayon is from 10 to 15%, whereas for cotton yarn of the same numbers our percentage of throw-outs is from 7 to 12%. It should be borne in mind that, to get good results, spoolers and warpers must be kept in good condition at all times.

I believe that relative humidity in mills should be adjusted to suit the local conditions of each individual plant. However, the humidities that I found best suited for running rayon staple are as follows:

Picker room.....	55%
Cards, drawing frames, and roving frames...	55%
Spinning room.....	55–60%
Spoolers and warpers..	55–60%
Weave room.....	75–80%

I have run a number of tests, from time to time, using both higher and lower percentages of relative humidity. From these I find that my work runs better with the percentages given above. On windy days we use 60% relative humidity for spinning and spooling, and 80% in the weave room. The work runs about as well as a good grade of cotton.

We have controls in each room, and in the picker room we have controls on each head. Also, we have a man in charge of relative humidity at all times. As we are bothered with static all over the mill on windy days, we run about ½ gal. of glycerine through our humidifier tank for every 5 gal. of water. Static is considerably more troublesome at the cards and drawing frames than in other parts of the mill. Hence, at times I take an insect gun filled with 50% glycerine and 50% hot water, and spray underneath the cards and drawing frames. This completely eliminates our trouble with static.

Combination Yarns

Problems encountered by throwsters; defects commonly noted; elimination of troubles

By O. P. SHELTON

PRESENT popular combination yarns should not be confused with fancy yarns, generally distinguished by nub and/or spiral effects, nor with plied yarns formed by doubling and twisting of similar yarns. Combination rayon yarns are doubled and twisted ends of rayon crepe and untwisted rayon, usually one end of each.

An essential, of course, is a rayon crepe end; more often than not this is made by the throwing plant which manufactures the combination. However, the actual starting point in the throwing of the combination is with crepe yarn on spools or tubes, and normal twisted (3 to 5 turns per in.) yarn on spools, cones, or tubes. Viscose-type rayon is generally used for the crepe; the normal rayon can be either viscose or acetate. In some instances, the latter yarn is used with no twist, or with less than 1 t.p.i.

Close attention should be given to elimination of defects peculiar to combination yarns

Probably the first problem faced by combination-yarn throwsters was that a different rate of feed was needed for each end in order to achieve a smooth, strong, even-breaking yarn. This was met, in the majority of cases, merely by tensioning the normal end more than the crepe end, although it cannot be said that such a method gives strictly uniform results. Doubler-twisters with two sets of feed rolls were converted from cotton to rayon better to solve this problem, and it is understood that silk-type machines with double lines of feed wheels are now available. At the present most of this yarn is run on regular silk type double-twisters.

Another problem generally encountered was the necessity for large packages to accommodate the heavier thrown yarn. The larger package doubler-twisters developed for silk offered a good immediate solution, but even the largest of these are now considered too small for most economical operation and to meet market demands for relatively long lengths of yarn free of knots.

A third problem which presented

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itself was the need for more and more production. The obvious solution was to split the twisting operation between the doubler-twisters and the up-twisters, as is done on high-twist silk yarns. Although involving an extra handling, the increased production possible actually reduces costs. On the other hand, this double processing presents still more complication possible actually reduces costs. low-turn combinations should be run in one operation, but "low turn" might in one case mean 5 t.p.i., and in another, 10. Usually 3 to 5 t.p.i. of twist are inserted before second-time twisting, although there have been extreme cases of twist as low as 1½ t.p.i., during pressure for production.

Second-time twisting of rayon combination yarns is generally considered to be more difficult than the first-time operation. This is principally because the more the combination is twisted the greater becomes the difference between the relative take-up of the unlike yarns, since the crepe normally takes up more than the low-twist end.

Principal combinations are 75-den. crepe/75-den. normal, 75-den. crepe/100-den. normal, 100-den. crepe/100-den. normal, 100-den. crepe/150-den. normal, 150-den. crepe/150-den. normal.

The yarns are produced in such great variety that any statement concerning take-ups, to mean anything, must be confined to a definite construction. For instance, if the combining twist is in the same direction as that of both the crepe and normal yarns, take-up would be different than that obtained when the combining twist is against one or both of the component ends. Most combination yarns, however, are made by putting the combining twist in the same direction as that of both component ends. For this, rayon producers have obliged by supplying quantities of Z-twist normal yarn for use with Z-twist crepe yarn.

Strange as it may appear at first glance, combining similar deniers presents more difficulties than are experienced with the usual run of unlike deniers. This is because so-called like deniers, such as 100-den. crepe and 100-den. acetate, really comprise a 118-den. crepe and a 100-den. acetate. Thus, there is relatively more discrepancy between the take-up of the crepe end and the 100-den. acetate than there would be between 100-den. crepe (118 den. actually) combined with 150-den. acetate.

Close attention should be given to elimination of defects. Four of the most common ones peculiar to combination yarns are snarled crepe, while the normal end lies smooth; loopy normal yarn (some loops actually protrude as much as ¼ in. from the combination); excessive skinbacks, the name given to defects caused by breaking of one of the 2 yarn ends and its subsequent stripping along the still unbroken yarn; and broken yarn—sometimes called hairy, broken filaments, or fuzzy. This last is peculiar to combination yarns in that it occurs in the normal end and not in the crepe.

Lesser items include spiral crepe, caused by faulty tension in the nrst operation or use of wrong-twist crepe; loose normal yarn, a close kin to loopy; and weak or cut single ends. All of these are prime causes of skinbacks, because the faulty combination causes any strain to be the burden of only one of the components instead of both. In additions the combinations are, of course, subject to all the troubles found in each of the single ends. These include gouts, uneven deniers, slack and/or hard twist (in the single end or the combination), and fly or waste twisted in.

Coulier-Motion Adjustment

Should be thoroughly understood by fixers of full-fashioned hosiery machines

By WALTER A. SIMOND

THE COULIER motion is one of the most important mechanisms on a full-fashioned hosiery machine. It is more rugged than the horizontal slide and link which it superseded and is more easily adjusted to obtain a perfectly equalized motion for both directions of the draw. Being a compound motion, it merits the careful study of those who erect or keep it in adjustment.

On page 35 of his book, "Knitting Full-Fashioned Hosiery," relative to the short rocker arm, M. C. Miller states that the reason for the eccentric stud is the desirability of raising or lowering the pitman at its short rocker arm connection so that it may, in the center of its movement, lie absolutely horizontal. This is true when the center line of the pitman is level and intercepts the center line of the Coulier camshaft as shown in the accompanying diagram. However, since the Coulier mechanism is composed of so many parts, is it not probable that an accumulation of slight variations in construction or from repairs may occur, and that the eccentric stud affords the best way to overcome the harmful effect of such variations?

Only at the center of a correctly constructed Coulier motion can the pitman lie absolutely horizontal. This is because the long lever end of the pitman moves in an arc below, and the short lever end in an arc above, the horizontal line through the center of the Coulier camshaft. The resulting action of the pitman is from the inclined to the horizontal and back to the inclined for each complete stroke, as indicated by the broken lines in the diagram. Except at the center of the stroke, the long lever end of the pitman is always lower than the short lever end; and the pitman rollers rise and fall in a rocking motion which the contour of the Coulier cam must accommodate. At the end of a pitman stroke the short lever end is about ¾ in. higher than the other end and the action cannot be absolutely horizontal. Since both the motion and action of the pitman should be the same in either direction but opposed, the writer suggests that the pitman be balanced and the motion and action equalized for one revolution of the Coulier cam.

In order to have the slur-cock action and carrier lead the same in both directions or equalized, the Coulier cam, approximately at the point of starting, marked *SP*, must contact one of the pitman rollers exactly at the beginning of every one-half revolution of the cam and also at exactly the same point on the cam. To adjust the pitman of a correctly constructed Coulier motion, the long lever should be brought to a perfectly plumb position—"centralized"—with the cam down so that a level may be laid on the top of the pitman rollers, which must be of the same diameter. Then the pitman may be leveled by turning the eccentric stud at the top of the short lever. The reason for having the center line of the pitman intercept the center line of the Coulier camshaft is to have exactly half of the Coulier cam

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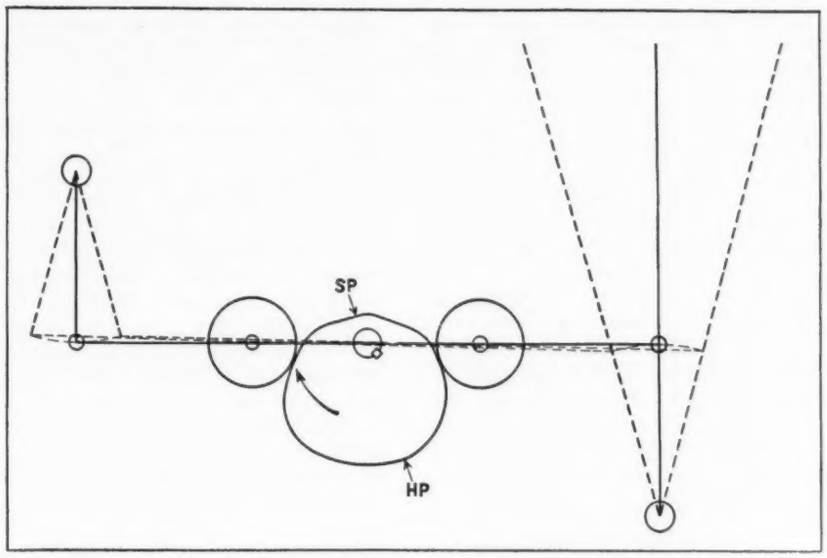


Rear-view diagram of Coulier motion

action above and the other half below the pitman center line. In this way the speed of the slur-cocks and carriers will be constant and alike in both directions, as is necessary for uniform stitches in knitting. It will be found helpful if the correct central and end positions of the friction rod driving block are marked on the back of the supporting bar.

Pitman Roller Adjustment

The high point of the Coulier cam is usually a high dwell at least an inch wide. The machine is turned to bring this high point in contact with the rollers and they are adjusted carefully for an equal lead of the carriers in both directions. A clearance between the opposite roller and the cam at the high point setting of about 0.02 in. is generally recommended. There is usually a slight variation in the cam clearance, and great care must be taken that the pitman rollers do not bind the cam with serious breakage as a result.

After the pitman rollers have been correctly set, it is sometimes found that there is a considerable difference in the clearance at the high-point positions. This is an indication of incorrect construction and that the Coulier motion is not equalized. To determine the amount of the error at the long lever end of the pitman, the long lever should be brought plumb (centralized) with the cam up, the pin at the short lever end of the pitman removed, and that end of the pitman dropped to the floor. Now it is possible to set a surface gage on the back rail and pick up the center of the Coulier camshaft with the scriber point so as to transfer that height over against the center of the pitman pin in the long lever. Whatever the difference in those two heights, it will be necessary to move the short lever the same distance either above or below the center of the Coulier camshaft in order to bring the center line of the pitman to the camshaft center line. This is the position which must be maintained; therefore do not attempt to level the pitman rollers after the pitman has been balanced in this manner, but set them in the usual manner.

In adjusting the Coulier-motion clutch on the main camshaft, it is very important that the pitman roller does not pass over the high point, marked *HP*, before the Coulier cam stops for the narrowing cycle. While the narrowing takes place, the friction rod (splicing shaft) must be held firmly by the pressure of the pitman roller against the high point of the Coulier cam, and the friction boxes which are connected to carriers must slide on the friction rod. When there is the least clearance between the pitman roller and the Coulier cam while narrowing, the friction rod and boxes with all connected carriers will move, not only spoiling selvages, but often breaking needles because carriers are moved out of position. In setting this clutch be sure to maintain the clearance between it and the Coulier pinion which is recommended by the builders of the machine. Do not guess. It is safer to insert a piece of the right thickness in the opening. When the brake band or dog is correctly set, the distance the clutch has to move in order to release determines the exact position at which the Coulier cam will stop. Whenever the clutch is moved forward or backward on the camshaft, the rocker cams must be turned also.

In the accompanying rear-view diagram of the Coulier motion the three solid black lines represent the centralized Coulier motion, the broken lines the extreme positions at each end of a stroke, *SP* the approximate starting point, *HP* the end of the high point, and the arrow the direction in which the Coulier cam rotates.

Lower Dyeing Costs

Obtained by careful choice of methods and dyes

By THOMAS K. HALLEY

NOT ALL the troubles which beset the dyer in these days of close competition have to do with the matching of shades or the controlling of quality. With customers demanding better-quality goods, yet hesitating to pay higher prices, it is necessary as never before to watch costs from every angle. Every dyer will readily admit that small batches are his greatest handicap in keeping down expenses. Not so readily will he admit that re-dyes are the next greatest problem.

In our dyehouse we have machinery for the dyeing of cotton raw stock, skeins, and packages. This gives a flexibility which helps in deciding just where to route the orders as they come in. Probably this is the point where the greatest saving can take place or the greatest amount wasted. No one but the dyer himself should decide about routing the orders.

The combination of a short liquor, little yarn waste through tangling or spotting, and a minimum of labor make package dyeing an ideal method of dyeing many types of yarn. If orders come in for uniform quantities of any one color, it is a simple thing to have machinery which will take this amount. A package machine is flexible. A machine designed for 100 lb. will dye batches of from 50 to 125 lb. However, the ratio of liquor to goods

THE OVERSEERS' CORNER

varies with the amount, and a formula which dyes 100 lb. cannot be cut in half to dye 50 lb. For direct dyeing it is likely to be 60%; for deep shades of vats it may run to 75%; and for naphthols it may be even higher. As the labor in each case is the same, it is evident that costs can be kept at a low point only by having batches as near as possible to the ideal weight. As an illustration, suppose that 100 lb. of yarn dyed direct will require:

½ lb. Penetrant at 40c.	$0.20
2 lb. Fast Direct Blue at $1	2.00
10 lb. Salt at 0.005c	0.05
Labor	0.75
Total	$3.00

Exclusive of power, steam, or overhead, the cost is 3c. per lb.

A batch of 50 lb. in the same machine will require:

½ lb. Penetrant	$0.20
1¼ lb. Dye	1.25
10 lb. Salt	0.05
Labor	0.75
Total	$2.25

In this case the dyeing cost is 4½c. per lb., or 1½c. per lb. more. The obvious answer to this is to employ a package dyeing machine of the correct size for a 50-lb. lot. However, the average dyehouse will probably not have more than three sizes of machines. An alternative is to dye the yarn on a skein dyeing machine.

On the latest types of modern skein dyeing machines the yarn is hung on arms and either turned in the dye liquor or subjected to a flow of the dye solution. In either case the dye tank can be separated into compartments so that the ratio of liquor to yarn remains fairly constant regardless of the amount of yarn to be dyed. This insures against waste of dyes and chemicals, and is particularly important in dyeing naphthols, where the strength of solution depends on the amount of liquor, rather than on the weight of the goods. With some types of skein dyeing machines, all the arms can be used at the same time, with the tank separated into sections and each section dyeing a different color. This saves labor, steam, and power, and insures the lowest cost on small orders. For certain purposes, of course, skein dyeing has advantages regardless of the size of the lot.

When a large quantity of yarn is required of absolutely uniform shade it may be advisable to dye in the form of raw stock. It is not necessary to dye exactly to shade on the first batch, as subsequent batches can be toned to bring the whole blend to the shade required. Naturally some judgment must be used in this, lest the finished yarn have too much the appearance of a heather. In other cases the heather appearance is desired, and can be obtained only by raw stock dyeing.

Speed of delivery and economy can be obtained in raw stock by another method. Assume that we have twenty colors in our range, running from scarlet, through red to a deep maroon, all dyed with developed colors. It is possible to keep on hand raw stock dyed in three to four shades; for example, scarlet, light red, full red, and deep maroon. The other sixteen colors can be obtained by careful blending of these four—saving labor; time; and often, money.

Selection of Dyes

Dyeing of vat colors—whether in skein, package, or raw stock form—runs into big money. Therefore, it is a good idea to separate vat-color work into two or three classes. For lines which must be bleached, repeatedly washed, and exposed to sunlight, the best (and usually the most expensive) vat dyes can be used. For other lines, where wash fastness alone is required, less expensive vat colors are frequently satisfactory. Again, there are sulphur dyes which will dye as vats and which can be mixed with vats for economy. There are even direct dyes, of the non-dischargeable type, which can be used either as vats or sulphurs. In using these, care must be taken and results checked to make certain that the dyeings are sufficiently fast to meet the specific requirements. On the other hand, there are some vat colors, notably certain blues and yellows, which can be used in place of sulphur colors, with better fastness, clearer shades, and less cost.

Every dyehouse has a cheap line to dye, where all that is required is that the shade be reasonably close when received, with future fastness properties of no interest. Here the dyer can offset the added expense of his high-grade lines. For example, it would be foolish to dye a wrapping twine with fast Scarlet 4BS if Benzopurpurine will do the work. Many other lines call for minimum fastness, and the time spent in pot-dyeing to select cheap dyes will be a good investment.

Every dyer knows that it pays him to save dye liquor if he has many batches of the same color to run in the same machine. This has long been done on deep sulphur shades and in the dyeing of indigo; but it is equally successful with many of the newer dyes. In skein dyeing of naphthols it will pay to keep one machine impregnating and another developing, to obtain full value from chemicals used, and to save washing of machines.

A dyer may be forced to decide whether to add more chemicals or to spend more time to achieve a certain result. In figuring the costs, it is not enough to balance labor against chemicals, but consideration must be given to the time a machine is tied up for one batch of goods. In peroxide bleaching this is a real factor and must be carefully considered; often a compromise being made between the maximum of time and the maximum of chemicals.

Redyes

Redyes, which easily can be a big factor in high-cost dyeing, are caused in many ways. Inexact matching may cause rejection by the customer, resulting in freight or express charges against the dyehouse, as well as rehandling of the goods. A good way to keep rejections at a minimum is to have more than one man pass each batch before it leaves the mill.

Uneven package or skein dyeing may cause redyes which call for stripping of the original color and a complete new start. Besides doubling dye costs, this does the yarn no good, almost always giving it a harsh feel and a lower breaking strength. More than any other thing, failure to prepare the yarn properly will cause uneven dyeing. It is poor economy to save on boiling time, on penetrants, or preliminary washing. In the dyeing of vats, a good caustic boil-out not only helps evenness, but in many cases gives deeper shades with the same amount of dye. In skein dyeing, too short a boil-out may cause light places in the yarn, which are not noticed until the yarn is coned or packaged.

Since the rewinding of skein-dyed yarn to packages or cones is a part of the work on dyed materials, the dyer should feel it is a part of his responsibility to keep this cost at a minimum, whether or not he is in charge of the winding department. Nothing is so important in keeping skeins straight as careful handling by dyehouse operatives—and nothing is so sure to be neglected unless kept constantly in mind. During boiling-out, and in washing, all machines should be run at lowest possible speed, to insure as little motion of the yarn as is consistent with level dyeing.

STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston, New York

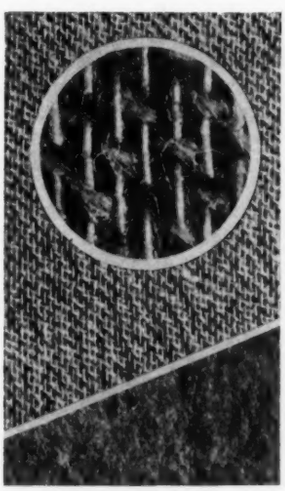
This forty-first installment of Mr. Hoye's series of articles on staple cotton fabrics — which began in the January, 1936, issue — completes the discussion of cotton flannels.

COLORED WOVEN FLANNELS

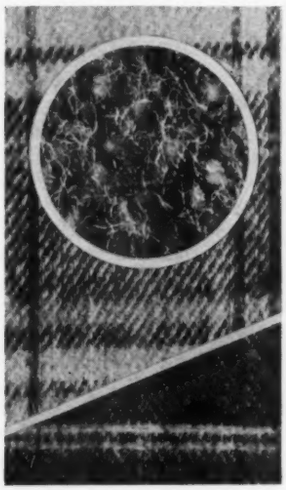
Interlining flannels are made mostly in mottled effects (usually black and white). They are produced in a wide range of weights; viz., 1.50 to 8.25 yd. per lb. for 40-in. widths. They usually are made of black dyed warp yarns and black and white, mock-twist, soft-twist filling yarns. Waste often is used in the filling. Mottled interlining flannels also are made in blue and white, green and white, tan and white, etc. For some uses they are made in all-black. (Interlining flannels also are made unbleached.)

Oxford gray mixture flannels are made in 2.50 yd. per lb. twill weave and 4.75 yd. per lb. plain weave, both for 36-in. widths. They are made in solid colors for shirtings and with stripe effects for baseball uniforms.

Glove and mitten flannels are 4-harness, warp-face twills with a heavy-fleece napped back, made with a colored-ground warp with contrasting colored stripes. They are used largely for work gloves, etc. (These are a special type of canton flannel.)



Colored woven mottled interlining flannel, 40 in., 34x22, 5.25 yd., mock-twist soft-twist filling



Plaid flannel, 36 in., 76x48, 2.66 yd., napped-back 4-harness twill

Plaid flannels are made in weights ranging from 2.00 to 5.00 yd. per lb. for 36-in. widths. Many of these flannels are woven with a twill weave, while others are woven plain. Usually sulphur colors are used. Heavier weights—2.00 to 3.25 yd.—are used for sportswear and shirting, while medium and light-weight qualities are used for rubberized and other coated fabrics. For coated fabrics the flannel must have colors free from copper or manganese. Plaid flannels also are used for linings for raincoats, and women's and children's coats.

Examples of colored woven flannels:

Interlining flannel 40 in. 26x22 3.00 black-and-white mottled, napped back, plain weave, soft-twist filling.

Interlining flannel 40 in. 34x22 5.25 black-and-white mottled, napped back, plain weave, soft-twist filling.

Interlining flannel 40 in. 28x28 4.25 solid black, napped back, plain weave, soft-twist filling.

Oxford gray mixture flannel 36 in. 76x48 2.50 napped back, twill weave, soft-twist filling—for shirtings.

Oxford gray mixture flannel 36 in. 76x48 2.50 napped back, twill weave, soft-twist filling—for baseball uniforms.

Plaid flannel 36 in. 48x42 5.00 double-napped, plain-weave lining—soft-twist filling.

Plaid flannel 36 in. 76x48 2.66 napped-back, twill-weave shirting—soft-twist filling.

Glove and mitten flannel 34 in. 72x38 8.00 oz. napped back, twill weave, soft-twist filling—pencil stripes on colored ground.

UNBLEACHED FLANNELS

Unbleached flannels are not converted, but are used in the unbleached, napped state. They usually are given a heavy nap on both sides in order to obtain the maximum loftiness of bulk. This is more important than the strength factor. They are made in a wide range of constructions and are used chiefly for interlining in womens and children's cloth and fur coats, jackets, etc.

Interlining flannels are used unbleached in weights of 1.75 to 4.50 yd. per lb.

Table felt is a heavy, bulky flannel used for table pads. Especially for the heavier qualities, in order to obtain the necessary bulk and weight, special sheetings with twice as many warp ends and filling picks per inch as the ordinary soft-filled sheetings, are used.

Canton flannel has a twill face and napped back with long fleece. It is a 4-harness warp twill made with a coarse, soft-spun filling which floats on the back of the cloth. It is used largely for work gloves. Heavier qualities of canton flannel—8 oz. per yd. for 36-in. widths—are dyed in various shades for use in rubberized fabrics. These usually have a long wavy nap and sometimes are called elephant or rhinoceros hide.

Examples of unbleached flannels:

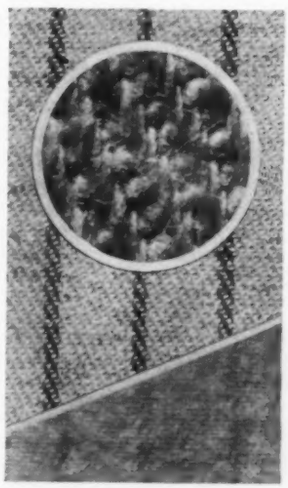
Interlining flannel 40 in. 26x28 1.75 double-napped s-f. sheeting.

Interlining flannel 40 in. 32x28 3.00 double-napped s-f. sheeting.

Interlining flannel 40 in. 40x36 7.00 double-napped s-f. sheeting.

Table felt 54 in. 19.5 oz. double-napped duplex sheeting.

Canton flannel 33 in. 72x74 9.00 oz. napped-back 4-harness warp twill.



Glove or mitten flannel, 34 in. 72x38, soft-twist filling, napped-back 4-harness warp twill

LOOMFIXERS' MANUAL

COTTON SECTION – *Chapter V – (Continued)*

By IVAR MOBERG

Harness Motions

WHEN intricate figure weaving beyond the capacities of dobbies and head motions is required, a jacquard must be used. There are a great many types of jacquards, but the double-lift, single-cylinder is by far most commonly used.

In Fig. C52 are shown various parts concerned with adjusting and timing of a jacquard. In adjusting, first move the wristpins in the double crank on the bottom shaft until they are approximately in the center of the slots; then tighten the bolts. Turn the loom over until the double crank is horizontal, then fasten the lifting-lever connecting rod to the lower lifting-lever. Adjust the length of the connector so that the lifting lever will be approximately level.

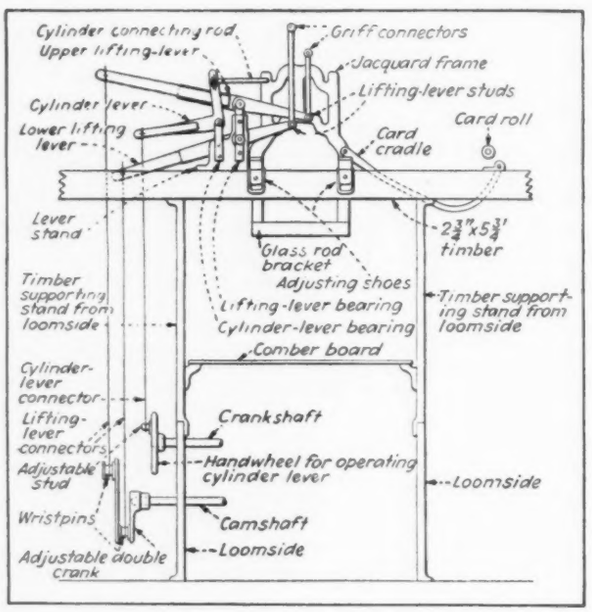
Obtaining Correct Shed Height

Determine the required height of shed and, after turning the loom over until the double crank has brought the lever to either of its extreme positions, measure from any fixed point the height of the lifting lever at the center of the lifting-lever stud. Now turn the loom until the double crank is in the opposite extreme position and again measure the height of the lifting lever between the same two points used previously. The difference between these two measurements, minus ½ in., is the approximate height of the shed, as the loom is then set. Move the wristpin in the slot until the throw of the double crank will give the required lift to the harnesses.

The position for the wristpin can also be calculated, by means of proportion. For instance, if the distance from the lever fulcrum to the center of the lifting-lever stud is 11 in., the distance from the lever fulcrum to the center of the lifting-lever connection 26 in., and the required height of the shed 3 in., then 11:26:3:X and X = 7.09. This means that the double crank must be given a throw of 7.09 in. + 0.5 in., or 7.59 in. to lift the harnesses 3 in. This throw can be obtained by moving the wristpin until its center is 3.8 in. from the center of the camshaft.

When the correct throw for the lower lifting-lever has been obtained, connect the upper lifting-lever and adjust it in the same manner.

Next comes the delicate job of adjusting the cylinder to the needles. For this purpose, cut four master cards containing only peg holes, lacing holes, and a short section of needle holes at each end and at the middle. Draw vertical and horizontal pencil lines on the cards in such a manner that their intersections will come at what would be the exact center of all the holes. A coat of white shellac will preserve these cards for further use. Lace the master cards around the cylinder and adjust the card pegs, if necessary, until the holes in the cylinder line up perfectly with the marks which have been penciled on the cards.



C52. Diagram showing various parts concerned with adjusting and timing of jacquard harness notions

Now, smear some Prussian blue on the ends of the needles, and bring the cylinder in toward the needles until one of the master cards comes into contact with the needles. The Prussian blue will leave marks on the card; if these marks are exactly at the intersections of the pencil lines, the cylinder is lined up perfectly. If the marks do not line up correctly, wipe the Prussian blue from the card and adjust the cylinder, both vertically and laterally, until the contact marks do coincide with the penciled intersections at both ends and in the center of the card. Make sure, of course, that there is no end play of the cylinder.

Turn the loom over until the stud on the handwheel is in horizontal position with reference to the crankshaft. At this point attach the cylinder-lever connecting rod. Adjust the length of the connector so that the lever will be level. Now turn the loom over until the stud is exactly in bottom-center position, and fasten the two cylinder connecting-rods to the upright member of the cylinder lever. Adjust individually the length of the cylinder connecting-rods until the cylinder lies perfectly parallel with the needle board and the hooks of the uprights are forced away from the griffs sufficiently that the backs of the uprights just clear the next griffs. It is important not to allow the cylinder to go so far in on the needles that the backs of the uprights are forced against the griffs in the next set.

Turn the loom until the cylinder is free of the needles and can be turned around by hand without its corners touching the needles. Turn the cylinder exactly ⅛ of a revolution, which will position it cornerwise on the check hammer, and then adjust the turn pawl in the slots so that it will just catch on one of the cylinder lugs. Properly adjusted, the turn pawl should begin to turn the cylinder when it is ½ in. away from the needles, going out. With the cylinder in the same position, adjust the safety pawl on the opposite side so that it will just drop in front of one of the lugs at the other end of the cylinder. Turn the loom back

slowly to bring the cylinder into the needles, and make certain the safety pawl turns the cylinder over just sufficiently so that its flat side comes against the needles. Do not neglect proper setting of the safety pawl, as it will prevent serious smashes which might be caused by the cylinder coming in cornerwise.

Now turn the loom until the stud in the handwheel is in its top position, and adjust the stroke of the cylinder until it just completes turning the cylinder ¼ turn. Any adjustment of the stud in the handwheel must be followed by readjustment of the length of the cylinder-lever connecting rod, so that the "in" position of the cylinder is not disturbed. The stroke of the cylinder should be from 1¾ to 2 in. for 8-row cards, and from 2¾ to 3 in. for 12-row cards. It is important that the cylinder does not have a longer stroke than is necessary for proper turning, since the longer the stroke, the faster the cylinder will move, thus shortening the time of needle contact and giving to the cards a tendency to jump the cylinder.

Next, turn the loom until the double crank brings the lower-lifting-lever connecting rod to its extreme top position; at this point attach the griff connectors at each side of the lifting lever. Adjust the length of the connectors until the griffs come within ⅜ in. of the lower end of the hooks in the uprights. Make sure this clearance is uniform along the entire length of the griffs. Turn the loom over one pick and repeat the operations on the upper lifting-lever. Check the lifting height of both levers. Each must lift the griffs sufficiently and exactly the same distance in relation to the other. If they do not, readjust the throw of either or both cranks, as the case may require, until the desired lift is obtained and the griffs are lifted an equal distance. Any change in the throw of the double crank must be followed by a readjustment of the length of the lifting-lever connection to maintain the correct "down" position of the griffs; i.e., ⅜ in. below the hooks of the wire uprights.

The last operation is timing of the cylinder. Turn the loom until the top of the ascending griffs just clears the hooked ends of the wire upright. In this position, loosen the setscrews in the crankshaft handwheel, turn it until the cylinder is fully in on the needles, and then retighten the handwheel setscrews.

After the jacquard has been carefully checked, lubricate all moving parts with a good quality oil of 250 to 300 sec. Saybolt viscosity. Spray needles and uprights with a good oil of about 100 sec. Saybolt. Then run the loom idle for several days to limber up the harnesses. During this run, check the various moving parts from time to time, retightening screws and bolts which work loose. Use a set of plain weave cards for this run; if only four cards are used the card strippers must be removed.

WOOL SECTION — *Chapter VII*

By BENJAMIN F. HAYES

Temples

CORRECT adjustment of temples is of considerable assistance in making warps weave better, and in general in promoting efficient production of flawless fabrics. Loomfixers should make certain that the temples of their looms are at all times set suitably for the work involved.

The tighter a weave is, and the more the filling is crowded into a cloth, the harder it is for the temples to hold the cloth out to proper width. To make the temples hold a fabric firmly in such cases, force the cylinder barrels up as much as possible. It is also helpful, in such instances, to set temples as close to the reed as is practical.

Conversely, on slack-weaving fabrics of low pickage, the cylinder barrels should be set as low as possible, as this assists weavers in making more nearly perfect start-ups, especially on light work. Also, the temples need not be set so near the reed.

In fabrics which have one or two picks of rayon or silk every half inch or so, it is sometimes found that the temples are cutting these decoration yarns and making small holes in the fabric. Because of the infrequent appearance of the yarns, it is difficult for weavers to see the holes. It is also more or less of a problem to eliminate them. There are times when it is desirable to have the temples hold the fabric out as tight as possible, in order to make the cloth weave better, and this tends to cause cutting of the decoration yarns. On the other hand, if the temples are set to hold the fabric less firmly, and thus eliminate cutting of the rayon or silk, it is frequently found that cutting of warp ends by the temples increases.

To eliminate cutting of either warp or filling by temples, first ascertain which is being cut. If it is the warp, and if only one end is being bothered, a slight shift of the temple to right or left may solve the problem. Or, examination of the temple to determine which burr cylinder is responsible for the cutting, followed by examination of the burr cylinder in question, may indicate the remedy.

Sometimes it will be found that one or more of the pins has become hooked in shape. The point of this hook may be so small as not to catch on a worsted yarn, and still do considerable damage to a rayon or silk yarn. At other times, it may be found that small pieces of waste yarn are caught in the temple and are preventing free movement of one or more of the burr cylinders. Removal of the waste is in order.

Caution—When taking burr cylinders from temples be sure to do so in an orderly manner, as it is essential that each be replaced in its proper position.

It is the practice of some loomfixers to remove two or more temple burr cylinders when experiencing trouble with yarn being cut. Obviously, this will sometimes be of assistance, since removal of cylinders may make the difference between cutting and just missing a decoration yarn. On the other hand, it must be borne in mind that for each cylinder removed those remaining must do a proportionately greater amount of work.

Some mills use special types of temples to eliminate trouble with work of this kind. Star temples, for instance, hold the fabric out firmly and the pins catch only in the selvage; their drawback is that it is sometimes difficult for weavers to make good start-ups after picking out. Other mills use the old-type wood-barreled cylinder temples, employing two cylinders where formerly only one was used; these appear quite satisfactory for preventing cutting during weaving of the type of cloth in question.

To obtain best results, from both the weavers' and loomfixers' point of view, temples should be carefully examined each time a warp is placed in a loom. Burr-cylinder points should be kept straight, and the cylinders themselves should be kept clean so they will turn freely. They should not, however, be oiled, for such a practice will result in production of many yards of stained cloth.

NEW MACHINERY AND PROCESSES

Warp Knitting Machine

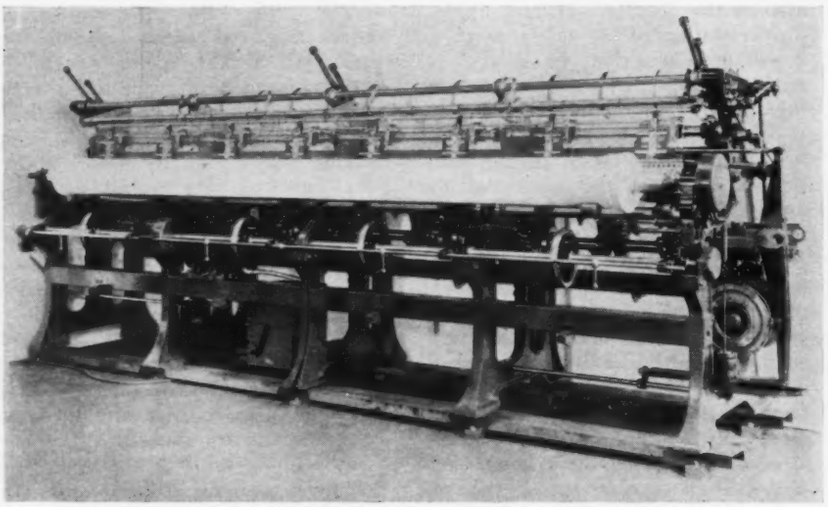
A high-speed, tricot, warp-knitting machine, manufactured by Whitin Machine Works, Whitinsville, Mass., and sold by Jacquard Knitting Machine Co., Inc., G and Lycoming Sts., Philadelphia, was introduced to the trade at the recent Knitting Arts Exhibition. The machine is of the one- and two-bar type, and is designed to operate at speeds as high as 500 r.p.m. with a 3-hp. motor. It is available in 168- and 84-in. widths. The machine is capable of knitting underwear and dress fabrics in a wide variety.

Among the mechanical features of the machine are the following:

The machine is equipped with a tension device which accurately maintains the proper feed necessary for balancing the amount of yarn fed to the needles to produce the desired stitch.

The take-up consists of a roller-clutch feed mechanism which selects the amount of cloth to be taken up. Constant tension is maintained on the cloth by means of an overhanging weight which properly balances the tension as the cloth roll builds up.

The machine is designed to take sectional warp beams, including both the new 14-in. diameter spools and the smaller spools now commonly used. An improved beam connection makes it easy and simple to take the sections apart and put them together again. At the same time, this connection joins the sections solidly, without any possibility of their moving while the machine is in operation.

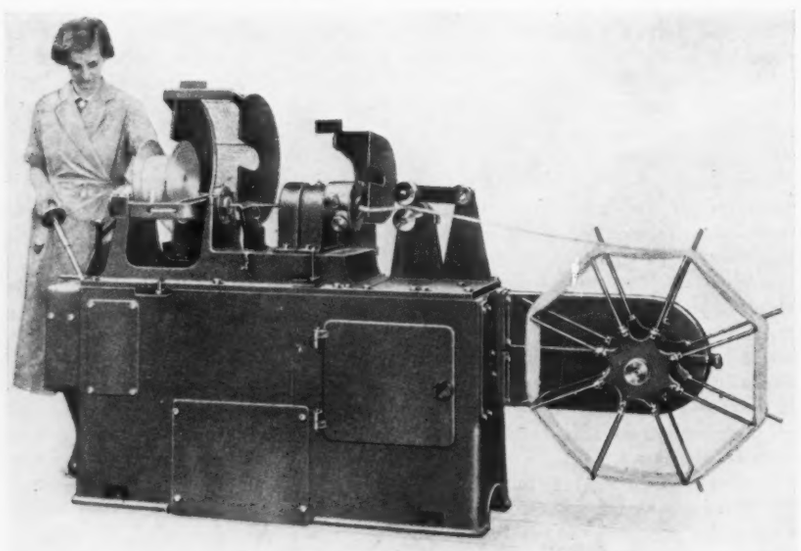


Tricot warp-knitting machine (Whitin and Jacquard Knitting)

Improved Curling Machine

Announcement of an improved motor-driven continuous curling machine, manufactured by Thomas Broadbent & Sons, Ltd., England, has been made by Atkinson, Haserick & Co., 152 Congress St., Boston, sales agents in this country. Production is said to be almost continuous, so that once the machine is threaded-up, it is not necessary for the operative to touch it until the supply of yarn in the creel has run out. Thus, one girl operative is said to be able to attend to a large number of machines when placed in battery formation.

All change gears are the same as those used in standard textile practice. Idler gears and all other high-speed revolving parts are mounted on ball bearings. The curling mechanism is mounted on a box frame base which totally incloses the individual driving motor and transmission. The machine is started and stopped by the movement of one lever, and can be furnished in either right-hand or left-hand types. It is said that there is practically no vibration when the machine is running at full speed, so that it can be installed on a wooden floor without the necessity of providing a special foundation.

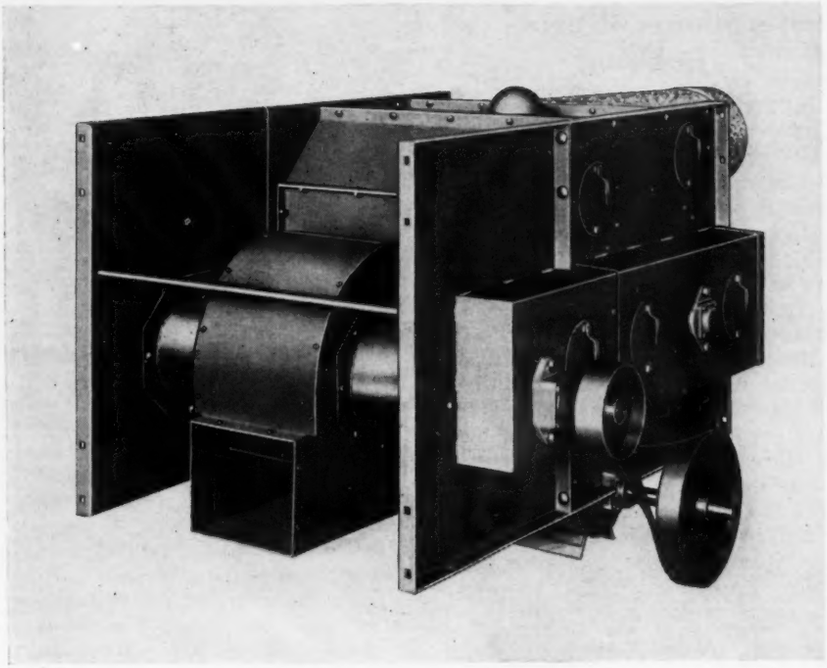


Curling Machine (Atkinson, Haserick)

Dust and Waste Extracting Condenser

For use wherever there is need for separating cotton from the air stream in which it is being transported, Saco-Lowell Shops, 60 Batterymarch St., Boston, have announced a new high-speed dust and waste extracting condenser with built-in fan. It is stated that a condenser of this type will remove about 30% as much waste as the conventional two-blade beater, without any possibility of impairing the workability or strength of the staple. This machine, known as the No. 11, can be used for wool and synthetic staples, as well as cotton.

The housing is made from heavy steel plates formed and welded, with reinforcing struts and girts wherever needed. It is so arranged that it can be operated in any desired position. There are two compartments in the housing—one for the condenser cage, and the other for the exhausting fan. The cage, which can be made either of woven screen material or of per-



Condenser (Saco-Lowell)

forated plate, is supported by spiders carried on the shaft. Beneath the cage, but within the cage compartment, there is a high-speed doffer with six steel blades tipped with leather to make the necessary contact with the cage surface. The exhauster fan, which is within a separate compartment, has self-cleaning blades and is especially designed to handle air laden with dust and fine lint. All six bearings on the condenser are of the dust-proof antifriction type. All drives are by belt and flat-face pulleys located on the outside of the housing.

Air is drawn through the cage surface and then through the inlet pipe by two large air ducts leading from the cage compartment to the fan inlet. The cotton, impinging on the cage, is retained, while the separated dust and trash pass out through the mesh or perforations to the exhaust fan.

Rotary Press

Introduced in this country recently by Robert Reiner, Inc., Weehawken, N. J., is an automatic rotary press manufactured by Kettling & Braun, of Germany. Advantages cited are uniform pressing, even at maximum pressure; increased production due to automatic lifting of the press when seams run through; self-adjustment of the press for any quality of goods; requirement of minimum attention with a maximum of safety; low current consumption due to a mechanical production of pressure.

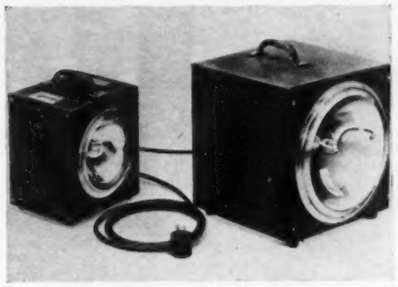
Chemical Porcelain Products

A new type of dyeing roller, announced by Lapp Insulator Co., Le Roy, N. Y., is said to offer absolute non-porosity, chemical stability, and high resistance to abrasion and corrosion. The roller is made of Lapp chemical porcelain, lapped and polished to a surface accuracy of 0.0001 in., and is part of a line of chemical porcelain products recently announced by the company. Included also is porcelain piping, as well as evaporating dishes, jars, pots, breakers, and funnels for handling and processing.

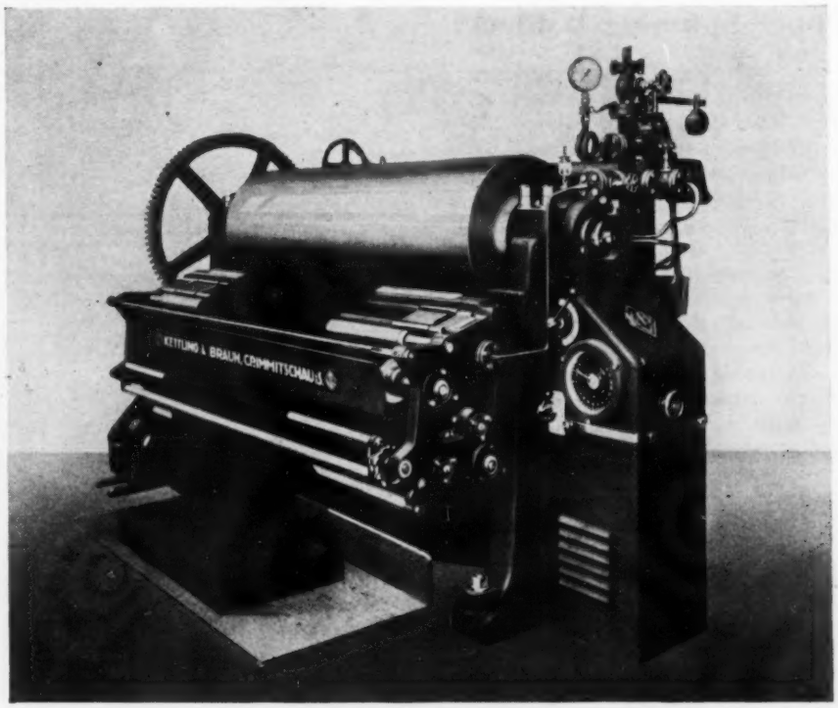
An outstanding feature of the material is its non-absorption and consequent elimination of contamination from successive batches of unlike material handled.

Two New Stroboscopes

Recently General Radio Co., 30 State St., Cambridge, Mass., brought out two new stroboscopes. The smaller one, 7½ x 8¾ x 10 in. and weighing 10 lb., is suitable for speed measurements on spinning and twisting spindles, looms, and other textile machines. No mechanical or electrical contact to the machine under measurement is required, and no power is absorbed. Light from this stroboscope is directed on the machine to be measured, and the flashing speed is adjusted until the motion of the machine appears to be stopped; the speed is then read di-



Stroboscopes (General Radio)



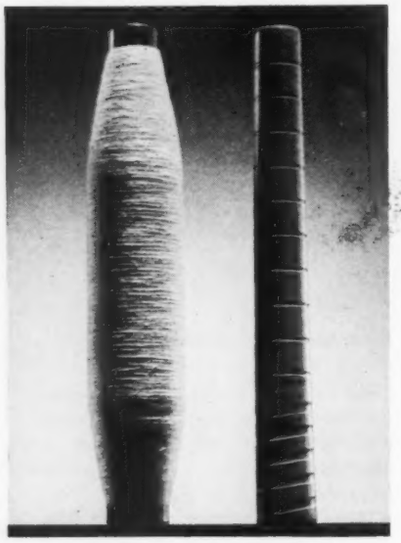
Rotary press (Reiner)

rectly from a scale graduated in r.p.m. Action of the moving parts under observation can be watched in slow motion.

The larger stroboscope 13 x 11 x 13 in. and weighing 25 lb., furnishes about 100 times as much light as the smaller one and is used in conjunction with it when larger areas are to be illuminated or where background lighting is strong. It also is suitable as a light source for single-flash photography.

Both stroboscopes operate on a-c. power.

Power consumption for the smaller one is 25 watts; for the larger one, 150 watts.



Paper spinning bobbin (American Paper Tube)

Paper Spinning Bobbin

For high-speed cotton spinning frames with large rings, American Paper Tube Co., Woonsocket, R. I., has announced a hardened and impregnated paper spinning bobbin. The weight of this bobbin is about one-sixth that of a wooden bobbin of corresponding size. These paper bobbins are easy to clean, since they are open at the top; and it is said that they should last five years or longer when used properly. They are obtainable in a variety of colors.

These paper bobbins are to be used with a special sleeve spindle. They are suspended at the top of the spindle, while at the lower end they have a clearance of from 0.008 to 0.012 in. This type of suspension is used for the purpose of allowing the bobbin to seek its center of gravity, to eliminate vibration. Also, this suspension reduces bobbin slippage and resultant wear at the tip of the spindle. Advantages cited for this bobbin are resistance to warping, splintering, splitting, and chipping.

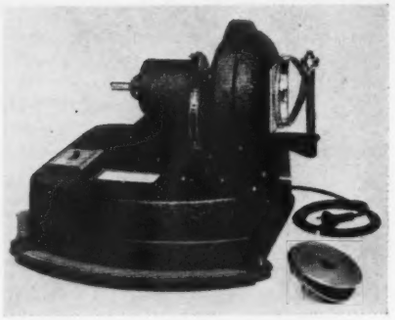
Cushioned-Bearing Bobbins

In the March issue of Textile World there was described the development by Saco-Lowell Shops of cushioned upper bearings for bobbins used in high-speed, large-package spinning of cotton yarns. It was stated that negotiations were under way so that cushioned bearings could be applied by various bobbin manufacturers to their products.

More recently it has been announced that the following organizations are now in position to apply these bearings: American Bobbin Co., James H. Billington Co., Bowen-Hunter Bobbin Co., David Brown Co., Dana S. Courtney Co., H. & P. Spool & Bobbin Co., Lowell Shuttle Co., New England Bobbin & Shuttle Co., Walter L. Parker Bobbin & Spool Co., and U S Bobbin & Shuttle Co.

Matcher and Analyzer

Complete color tests of a single specimen can be made in from 3 to 10 min. by a color matcher and analyzer brought out by Light Research Sales Agency, 1443 West Harrison St., Chicago. The instrument is said to be suitable for testing textiles. A timing device is built in, by which the current is periodically turned on and off, the light current being on



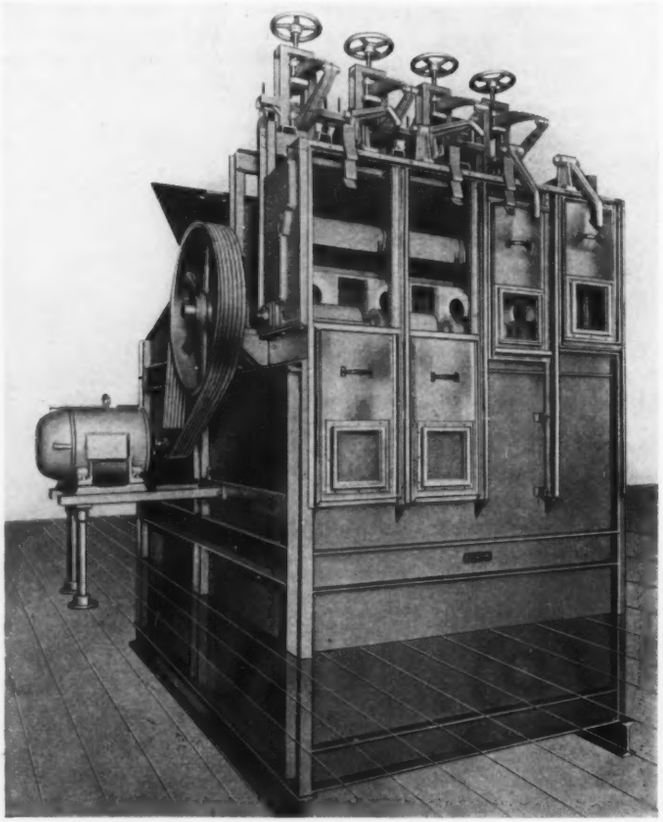
Color Matcher and Analyzer (Light Research Sales)

for approximately 10 sec. to allow time to read the meter, and off for 10, 20, or 30 sec., as selected, to allow time to change specimens and make records. Operation of the instrument is based on electrical measurement of reflected light.

The scale of the instrument has two calibrations—one is from 0 to 100 for brightness comparisons and general over-all tests where color is not considered, and the other calibration is from 0 to 33 1/3 for use in making blue, green, and red color tests.

Dry Fulling Mill

Almost continuous production is said to be possible with a 2-, 3-, or 4-compartment semi-continuous dry fulling mill brought out recently by Riggs & Lombard, Inc., Lowell, Mass.



Fulling Mill (Riggs & Lombard)

Each compartment can be loaded or unloaded without stopping the other compartments. If desired, four different kinds of fabrics, each requiring a different crushing time, can be run simultaneously. Normal crushing period is between 10 and 15 min.

Since this all-metal machine is normally motor driven and run at relatively high speeds, quick, uniform and thorough crushing on even the most burry fabrics is said to be effected. Exhaust connections on each compartment eliminate all carbon dust from the room. Top rolls have individual bearings with individual pressure- and toggle-operating devices. Only the bottom rolls, which continue clear across the machine, are driven.

Useful Accessories for Textile Mills

Lighting Equipment. Benjamin Electric Mfg. Co., Des Plaines, Ill., has announced the "Equalux" reflector, which is so designed as to concentrate a preponderance of the light from a silver-bowl incandescent lamp over a sharply restricted area 54 in. in diameter. Another recent development of this company is the Flur-O-Line reflector-type unit for use in connection with fluorescent lamps. These reflectors are supplied in unit sections designed to make easy and practicable attachment, end-to-end or side-by-side. Each unit is self-contained; sizes are available for 18, 24, and 36-in. lamps.

Steam Turbines. Improved multistage steam turbines for general purpose drives have been announced by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. The turbines range from 100 to 200 hp. and from 100 to 5,500 r.p.m. It is stated modifications of one basic design provide for condensing extraction, non-condensing, non-condensing extraction, or mixed pressure service. The new turbines are known as Type M and can be supplied for steam pressures up to 650 lb., steam temperatures to 750° F., exhaust pressures to 200 lb., vacuum to 29 in. of mercury, and extraction pressures to 200 lb.

Stoker Loader. D. J. Murray Mfg. Co., Wausau, Wis., has added to its line an automatic loader to fill stoker hoppers. It is stated the loader can be adjusted to meet stoker room requirements up to 10 tons of coal per hour. The loader can be suspended from the ceiling or supported by a stand from the floor; it is available in types for either right- or left-hand operation.

Pressure Gage. A power-type pressure gage suitable for measurement of extremely high pressures, and accurate to 1/10 of 1% of the reading, has been developed by Bailey Meter Co., Cleveland, Ohio. The gage is said to provide accurate pressure readings on an indicator scale. It will also transmit these readings to indicators and recorders located at distant points.

Temperature Controls. Julien P. Friez & Sons, Baltimore, Md., have announced a group of controls operating on a "hydraulic action" principle. The controls embody two basic assemblies, a solid liquid-filled sensitive element, and an inclosed powerful switch mechanism. Advantages of the new controls are said to include permanent accuracy, elimination of service attention, and ease of installation.

NEW CHEMICAL PRODUCTS

Solvent-Free Resin Dispersions

Rhoplex W-66, a water dispersion of a new, clear, colorless, synthetic resin which contains no organic solvents or plasticizers, has been announced recently by Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia. The clear resin deposited from this aqueous dispersion is unusually tough and flexible. Rhoplex W-66 can be used in acid, neutral, or alkaline solution. The dispersion deposits a continuous, thermoplastic film, whether air dried or forced dried. This film requires no curing or baking, and is said to be unusually resistant to acid or alkali.

Advantages of the new product cited by the manufacturer are: increases the strength of textile fibers and fabrics and acts as an extremely effective agent to bind and set soft-twisted yarns and fibers; low concentrations impart a marked increase in fullness and body to textiles; brilliance and depth of dyes are enhanced by the film; the resin has proved equally adaptable for finishing wool, cotton, spun rayon, and linens; is easily applied on standard mill equipment.

Synthetic Resin

Textac, a new synthetic resinous product developed for general use as a textile-finishing chemical, has been announced recently by Hercules Powder Co., Wilmington, Del. In combination with starches, softeners, talcs, and other materials commonly used in the preparation of finishing mixes for both pure finishing and backfilling, it is said to provide a means for improving the quality of the fabric without increasing the cost of finishing. Since Textac is not a thermo-setting type of synthetic resin, it does not require special handling or processing; but is simply added to the mix in the form of an emulsion prior to the gelatination of the starch. Among the advantages cited for the new product are the following: possesses excellent adhesive properties; is compatible with starches, gums, and softeners in all proportions; provides a body and fullness to mixtures of starch and softener superior to that obtainable with starch and softener alone; makes unnecessary the use of gums, waxes, and binders for improving adhesion and increasing the brightness of finish; the Textac-starch combination is characterized by extreme toughness, flexibility, and cohesive and adhesive strength, as well as by translucency, rather than cloudiness; prevents dusting out of fillers; improves stability of finish; reduces amount of softener required; and reduces tendency toward rancidity.

Substantive Softeners

A synthetic softener and a softener and detergent, both of the substantive type, have been announced by Arnold, Hoffman & Co., Providence, R. I. The first of these products, Ahcovel A, is said to possess extraordinary softening power and unusual stability. It mixes readily with starches, gums, resins, and a variety of other finishing materials in common use. It is resistant to hard water and acid conditions, but must not be used in highly alkaline finishing solutions or in solutions containing certain types of soaps, finishing oils, and similar compounds. The manufacturer states that Ahcovel A can be applied to cotton, rayon, wool, or silk to produce a soft, velvety, non-greasy, odorless finish, which is resistant to repeated washing and dry-cleaning and which will not discolor with heat or age.

The second product, Ahcovel B, is a combined scouring and softening material having substantive properties. In a neutral or slightly acid bath, it is said to be a highly effective penetrant and scouring material. At the same time it is absorbed by the fabric, leaving it permanently soft. For scouring operations it is recommended that a concentration of approximately 1% Ahcovel B be used as a basis for trials. The material is added directly to the scouring bath and worked at the desired temperature. The presence of strong alkalis, soap, or other alkaline materials in the scouring bath must be avoided.

NEW PUBLICATIONS

Rayon Book for Students and Salespeople

RAYON FABRICS; by Jessie Caplin; Riverside Press, Inc., St. Paul, Minn.; 70¢.

This booklet presents basic rayon facts and applies them to fabrics in the store. It contains a number of questions on the subject of rayon textiles, as well as experimental projects. Students and teachers of home economics, as well as salespeople, should find the book interesting and useful.

Self-Taught Creative Designing

YOU CAN DESIGN, by Winold Reiss and Albert C. Schweizer; Whittlesey House, McGraw-Hill Book Co., Inc., New York; price $3.75.

This book describes and illustrates for the first time an interesting system for development of facility in creative designing which is said to have been in use for years in the Winold Reiss Art School and in the New York University School of Architecture and Allied Arts. By means of 90 illustrations the authors carry the beginner through the various steps from scribble drawings to full-color compositions. In the textile field the book should be of value to those who desire to attain proficiency in creative jacquard and print designing; as well as to those who wish to gain a clearer conception of color, color values, and color combinations.

Data on Rayon

REPORT ON DEVELOPMENT AND USE OF RAYON AND OTHER SYNTHETIC FIBERS; U. S. Dept of Agriculture, Bureau of Agricultural Economics, Washington, D. C.

This report on the development and use of rayon and other synthetic fibers was prepared by Carl H. Robinson and Robert J. Cheatham, of the Bureau of Agricultural Economics; and D. F. J. Lynch and H. P. Holman, of the Bureau of Chemistry and Soils of the U. S. Dept. of Agriculture. It describes the various manufacturing processing, trends in production of rayon, sources of raw materials, factors influencing the use of rayon, consumption of rayon and other fibers in the United States, and development of other synthetic fibers including glass fibers and fibers made from casein.

Data on Finishing Hosiery

HOSIERY DYEING AND FINISHING. Onyx Oil & Chemical Co., Jersey City, N. J. Limited free distribution to hosiery mill executives, dyers, and finishers.

This book begins with a history of silk, discusses the biological formation of silk, chemistry and structure of raw silk, throwing, knitting, boiling-off, dulling, spot-proofing and finishing. The book is divided into two parts. Part I covers all-silk full-fashioned hosiery; Part II covers all other types of hosiery, including half-hose and socks of silk, rayon, wool, cotton, and unions. Also included are a discussion of pH control; descriptions of terms used in the hosiery industry; reference tables of weights, chemical equations, and charts. The book contains a large amount of up-to-date and valuable technical information on the dyeing and finishing of hosiery and should be of value to anyone connected with the hosiery industry.

A Consumer Guide

HOSIERY FOR WOMEN: A BUYING GUIDE, by Margaret Smith; Bureau of Home Economics, U. S. Department of Agriculture; available through Superintendent of Documents, Washington, D. C.; 10¢.

One by one the old cliches are becoming obsolete. This publication helps to bury the simile "as dull looking as a Government bulletin." It tells its story with pictures, and excellent pictures at that.

The bulletin lists 10 points in hosiery selection: fiber, weight, texture, construction, elasticity, reinforcements, size, special fit, appearance, color fastness. Every wearer of hosiery should be extremely interested in it, and of course every manufacturer of hosiery should see it.

NEWS OF SUPPLIERS

Hewitt Rubber Corp., Buffalo, manufacturer of hose, conveyor, bucket elevator and transmission belting, and packings, is celebrating this year the 80th anniversary of the founding in 1859 of its parent firm, the Gutta Percha & Rubber Mfg. Co. Hewitt Rubber Co., founded in 1904 acquired the last named firm in 1926, operated as the Hewitt-Gutta Percha Rubber Corp. till 1933 when the name was shortened to Hewitt Rubber Co.

JOHN H. O'NEILL, now representing Dary Ring Traveler Co.

John H. O'Neill, for nine years connected with Atlanta, Ga., office of Draper Corp., has resigned to accept position with Dary Ring Traveler Co., Taunton, Mass. Mr. O'Neill is graduate of Georgia School of Technology. He will cover Georgia, Alabama, and Tennessee, associated with Charles L. Ashley. Both Mr. O'Neill and Mr. Ashley will live in Altanta, Ga.

Lyon Metal Products, Inc., Aurora, Ill., has elected H. B. Spackman, vice-president in charge of sales, as a director of the company. Mr. Spackman has been with Lyon for the last two years, coming from U. S. Gypsum Co.

Textile Machine Works, Reading, Pa., has lately received substantial orders for its latest type full-fashioned hosiery machines from hosiery mills in England and on the continent.

CHARLES F. VAUGHN, of Mathieson Alkali Works, recipient of Schoellkopf medal for 1939.

Western New York Section of the American Chemical Society has awarded the Jacob F. Schoellkopf Medal for 1939 to Charles F. Vaughn of Mathieson Alkali Works, New York. Mr. Vaughn's work in the graphitization of carbon, his successful development and operation of the Castner mercury cell for chlorine and alkali production and his ability as an executive and administrator were

recognized in the selection. Formal presentation of the medal is set for May 15.

Universal Winding Co. has announced that its foreign agent in Switzerland, R. J. Schilling, has changed his address to 8 St. Jacobstrasse, Basel, Switzerland.

C. R. Donovan, formerly representing the National Electrical Manufacturers Association's business development activities, has resigned to enter the **Owens-Corning Fiberglas Corp.** where he will assist in developing applications and broadening acceptance of Fiberglas.

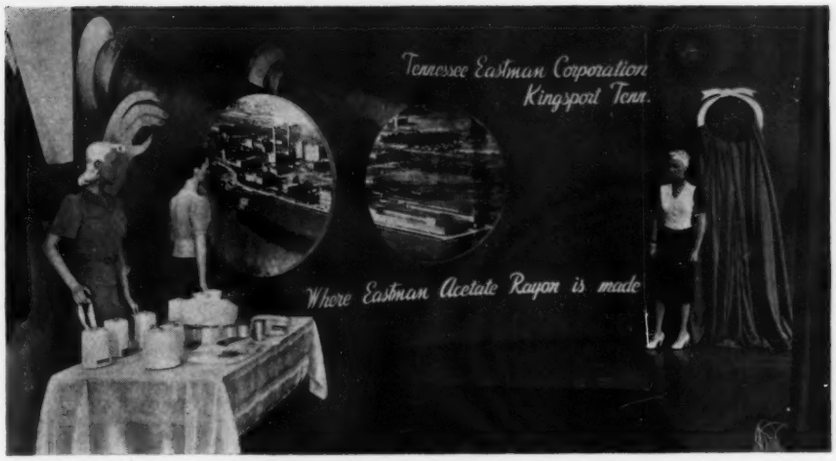
Link-Belt Co., Chicago, has appointed Kenneth C. Ellsworth as manager of its stoker eastern division, with headquarters at Philadelphia.

EDWARD H. CRABBS of Philip Carey Co. who has been elected president of the Executives League of America.

Executives League of America, New York, has elected Edward H. Crabbs of the Philip Carey Co., as its president. The League will aid business men to mobilize in a common cause. It will have chapters in every county and State in the country. Mr. Crabbs is eastern executive of the Philip Carey Co.

J. Edgeworth Beattie has resigned from U. S. Bureau of Foreign and Domestic Commerce, and will take up his residence in Greenville, S. C., soon after May 1. Mr. Beattie has been with Department of Commerce since 1933 in Washington, Detroit, Jacksonville, New Orleans and Atlanta. He is re-entering the textile industry as representative of Charlotte Leather Belting Co. Before going with the government, Mr. Beattie was sales manager of Southern and Central Franklin Process Co.

Scott & Williams, Inc., 40 Worth Street, New York, has acquired from Lawson Products, Inc., John Lawson, and Robert H. Lawson, the exclusive rights to their inventions for fabrics and garments incorporating elastic threads and devices for supplying threads under a predetermined constant stretch. The inventions assigned include U. S. Patent 2,009,361 for a fabric, two patent applications for supporting garments made from this fabric, and two patent applications for thread-supplying devices. These inventions are said to make practicable the use of bare rubber threads in knitting. Scott & Williams has recently developed a yarn-change attachment by means of which bare rubber thread can be introduced and removed from the knitting wherever desired. It is stated that fabrics so knit can be cut and sewn as readily as non-rubber fabrics.



STYLE SHOW and fabric display featuring Teca, Tennessee Eastman Corp.'s crimped acetate rayon, originally scheduled for April 18 to 21, was continued through April 26 in response to popular request. More than 200 fabrics, the products of many converters and mills, were shown to more than 1,000 visitors. The display took place in the Chanin Theatre on 42nd Street, New York. A wide range of textural effects was presented and costumes ranging from sports to formal wear were shown. Most of the models in the style show were French originals from the outstanding couturiers of Paris.

The Arkansas Co. after 20 years in the Woolworth Building, New York, is moving its offices to its new building on the site of its manufacturing plant in Newark, N. J. The company was founded in 1903.

American MonoRail Co. has reopened its Charlotte, N. C. office located at 214 Johnston Bldg. Lewis H. Fallis is in charge.

C. H. Patrick has resigned as superintendent of the Union Bleachery, Greenville, S. C., to become a member of the field service staff of E. F. Houghton & Co., makers of textile oils and leathers.

Commercial Investment & Trust, Inc., New York, has added to its executive staff, Gladding B. Coit, recently assistant chief in charge of business loans of the R.F.C. He was previously for 16 years with the U. S. Mortgage & Trust Co.

Toledo (Ohio) **Scale Co.** has broken ground for a new five-acre building for the home office and factory. Albert Kahn, Inc., Detroit, are the architects, and A. Bentley & Sons of Toledo the general contractors. The new structure will combine the six different plants which the company now operates in Toledo.

C. R. Barton has resigned as professor of weaving and designing in the Textile School of Clemson College to accept a position with Industrial Rayon Corp., of Cleveland, Ohio, in sales promotion work. Mr. Barton has been located in New York since April 15.

Laminated Shim Co., Long Island City, N. Y., has celebrated its 25th anniversary. Carlton N. Aborn, president, and Louis R. Tiemann, in charge of maintenance, have been with the company since its beginning.

Scheffler-Gross Co., Philadelphia, has appointed Frank B. Conlon as sales engineer on its staff. Mr. Conlon was formerly with the Engineering Department of the Pennsylvania Railroad and more recently with the Airtemp Corp., Dayton, Ohio.

Mathews Conveyor Co., Ellwood City, Pa., has recently compiled for free distribution to engineers and plant operating executives, a pocket-size volume containing 384 pages of engineering material on eighteen types of Mathews conveyors. Data are included on grades of incline recommended for conveyors handling various types of products; construction and installation specifications; horsepower calculations; and other information of interest to mill engineers. The book is illustrated with charts, diagrams, and photographs of actual installations.

THE PERSONAL PAGE

Charles Pinnell of Merrimac Mfg. Co., New York, was reelected president of the Textile Color Card Association at the meeting of the directors following the 24th annual busness meeting on April 20. The other officers were also reelected including the managing director, Mrs. Margaret Hayden Rorke. During the year the Association added 148 new members to its roster.

Dr. J. C. Moxley has been elected president of the newly-formed Grayson Full-Fashioned Hosiery Mill, Independence, Va. **E. F. Elliott** is vice-president and **B. M. Todd,** secretary-treasurer.

Richard E. McCormick of William Iselin & Co., New York has been elected president of the New York Chapter of the National Institute of Credit to succeed **G. F. Mallon** of Cone Export & Commission Co.

T. J. Wallner has been elected president of the Salem (Va.) Full-Fashioned Hosiery Mill. **J. Spencer Love,** of Burlington, N. C. is vice-president and **W. S. Coulter** is secretary.

Roger W. Whitman, New Britain, Conn., president of the American Hosiery Co., has been elected a director of John Talcott, Inc. Mr. Whitman is also president and a director of the National Knitted Outerwear Association, and a director of the National Association of Hosiery Manufacturers.

Howard K. Edgerton was elected president and treasurer of the Lebanon (Tenn.) Woolen Mills, at the annual meeting; **J. Elmer Hahn** of New York, vice-president and sales manager; **W. V. Jarrett** of Manchester, Tenn., vice-president and secretary.

Max Gertz, merchandise manager of B. Gertz, New York, has succeeded **Harold W. Brightman** of L. Bamberger & Co., Newark, N. J. as chairman of the Advisory Committee on Consumer Goods of the American Standards Association.

Antonio Gonzales, lately with Pacific Mills, has been appointed manager of the export department of Marvlo Mills, Inc., New York.

R. E. Palmquist has been elected president and treasurer of the Edgewood Textile Mills, Chicago Heights, Ill., succeeding **H. H. Lord,** resigned.

Robert E. Carre, of Jonathan Ring & Co., has been elected president of the Philadelphia Wool & Textile Golf Association. **C. A. Evoy,** Philadelphia Wool Scouring & Carbonizing Co., is secretary-treasurer.

MARSHALL V. MOSS, President No-Mend Hosiery Inc., Philadelphia, elected treasurer National Association of Hosiery Manufacturers.

V. J. Trotter, Sr. has been elected president of the Monticello (Ark.) Cotton Mills Co., succeeding the late C. P. Harris.

Dr. Frederick M. Feiker, of Textile Foundation, Washington, D. C., addressed the Greenville Kiwanis Club during the Southern Textile Exposition. He explained the workings of the Textile Foundation and the necessity for education and research in the textile industry. Among the honor guests were **Douglas G. Woolf,** editor, and **William G. Ashmore,** southern editor, of TEXTILE WORLD.

Joseph Friedenberg will retire on July 1 from L. Bachmann & Co., New York, with which firm he has been connected for thirty years. He has been active in the wool textile industry for 48 years.

Paul de Hagara has been elected president of the Eagle Rock Hosiery Mills, Singac, N. J. **John H. Mueller** was reelected treasurer and **Adele Mueller,** secretary.

P. C. Collier of Barnesville, Ga., has been made sales manager of the H. C. Jones Co., Conshohocken, Pa.

Edward A. Weeks and **William G. Ashton** have formed the partnership of Weeks & Ashton, New York and have become a department of Pope & Early, Inc. Mr. Weeks was for many years senior partner of Weeks, Sawyer & Co.

Fred Klein has been elected vice-president of Belding-Heminway Co., New York. He is in charge of the fabrics department. **J. P. T. Armstrong** was re-elected president and the chairmanship of the board, formerly held by **R. C. Kramer,** was left vacant.

Marion T. Grimes, of Gainesville, Ga., has left early this month to accept a position with the Compania de Tejedos de Rosellon, Medillin, Colombia, S. A. Mr. Grimes will be accompanied by Mrs. Grimes and his son, Harry. Mr. Grimes was formerly agent for Chicopee Mfg. Corp. of Georgia, at Gainesville.

H. Iijima, who has been associated with Mitsui & Co. for about 20 years, has succeeded T. Wakimoto as head of the silk department at the New York office.

George F. Ogan will represent L. C. Chase & Co., New York, in its newly acquired membership in the Association of National Advertisers.

George Lynch, associated with Greensboro (N.C.) Full-fashioned Hosiery Mills, has been promoted to superintendent succeeding **Wm. M. Grosse,** who has resigned to become general superintendent of three new hosiery units of the Burlington Mills Co. in Virginia.

A. H. Randall has become general superintendent of Alabama Mills, Inc., Birmingham.

REUBEN C. BALL, Reelected secretary, National Assn. of Hosiery Mfrs. at Philadelphia, meeting.

He was formerly assistant general superintendent.

Walter P. Taylor is the Golf Committee Chairman of the Textile Salesmen's Association which holds its annual golf tournament and outing on June 22 at the Tamarack Country Club, Port Chester, N. Y.

J. M. McNutt, lately vice-president of the Golden Belt Mfg. Co., Durham, N. C. has been elected president to succeed the late George W. Hundley. **George W. Hundley, Jr.** was elected vice-president in charge of sales.

Henry Neubert has become assistant vice-president in the fine goods department of Deering, Milliken & Co., New York.

P. A. Gwaltney has been elected chairman of the board of the Marlboro Cotton Mills, McColl, S. C., succeeding **D. K. McColl,** resigned. **David D. Carroll** is treasurer.

Claude I. Ruth, Jr. of Mohnton, Pa. and **Charles Baraca** of Oak Brook, Pa. sailed for Bogota, Colombia, South America, last month where they will serve as instructors to native full-fashioned hosiery operatives. Young Ruth is the son of the president of William G. Leininger Mills.

Joseph W. Brady, after 17 years with Cannon Mills, New York, has become associated with Woodward, Baldwin & Co. to promote the sale of towels and allied products. **James Q. Purcell,** at one time sales manager for Waypoyset Mfg. Co., has also joined Woodward Baldwin to take charge of their rayon department.

Ernest Biehl, for the last 24 years with Clayburgh Bros. has joined J. P. Stevens & Co., New York to sell greige goods.

Henry G. Rudolph, for 16 years head of the Bureau of Investigation for the National Federation of Textiles, has resigned to take up duties outside of the industry. He organized the Bureau which he headed and reduced silk thefts, which at one time were running nearly $2,000,000 per year, to an almost negligible point.

Charles Bingham has resigned from the California Cotton Mills to take charge of the Pacific Northwest territory for Celanese Corp. of America. His office will be in Seattle.

Emil Steiner, formerly with S. J. Aronsohn, has become general mill superintendent for the Blue Bird Silk Mfg. Co., New York.

Henry V. Vernet, Jr. is now manager of the New York office of the Hope Webbing Co. of Pawtucket, R. I.

C. S. Leigh has been appointed assistant to general manager **S. W. Rabb** of the Erlanger Cotton Mill, Lexington, N. C. **R. H. Hope** has been promoted to the position of superintendent of the mill

W. H. Darby has become superintendent of spinning and carding at Kenneth Mills, Wallhalla, S. C. He was formerly with Bibb Mfg. Co., Macon, Ga.

Harold A. Deal is now superintendent of Cornelius (N.C.) Cotton Mills. He was formerly with No. 2 unit of Judson Mills, Greenville, S. C.

John W. Kaneer has become superintendent of St. Pauls (N.C.) Cotton Mills. He was important in starting the mills in 1908, but for the last seven years has been a salesman in the machinery field.

Douglas Tompkins has resigned as secretary and treasurer of Cutter Mfg. Co., Rock Hill, S. C., to take charge of the cotton mill in Reading, Pa. operated by Joseph Bancroft & Sons Co., of Wilmington, Del.

C. J. Meagher, of Shelby, N. C., is now superintendent of Dacotah Cotton Mills, Lexington, N. C., succeeding **A. F. Bruton,** resigned.

Benjamin S. Bellemere, Syracuse, N. Y., formerly superintendent of the Fairy Silk Mills of Reading, Pa., has arrived in Pulaski, Va., and will be personnel director of all of the new mills to be operated by the Wallner interests.

Milton Schmidt, formerly with Pacific Mills, has resigned to take a position with E. F. Timme & Sons, New York. He will be engaged in styling, mill contact, and sales work.

Albert Marriott, formerly of Bloomfield, N. J., has been named superintendent of the Salem (Va.) Full-Fashioned Hosiery Mills, Inc.

Charles H. Henault is now superintendent of dyeing for Oxford Looms, Oxford, Mass.

John F. Carey, formerly of Millbury, Mass., is now in charge of dyeing for Eastland Woolen Mills, Corinna, Me.

Harold Williams, New Bedford, Mass., has resigned as technician at Security Mills, and has joined the staff of technicians at Barbour Mills, Brocton, Mass. He has been succeeded at the Security Mills by **Sidney Smith, Jr.,** also of New Bedford.

Yates Weathers, formerly of the Henrietta (N.C.) Cotton Mills, has become assistant to the overseer of weaving of the Gayle unit of Springs Cotton Mills, Chester, S. C.

T. S. Crow has become overseer of carding and spinning at No. 1 unit of Highland Park Mfg. Co., Charlotte, N. C.

Zack L. Underwood has resigned as overhauler of machinery at Norwood (N.C.) Mfg. Co.

Herbert S. Waldman has joined the downtown division of Cohn Hall Marx Co., New York in charge of merchandising rayon fabrics for the underwear trade.

Albert L. Ford has resigned as overseer of weaving at Swift Mfg. Co., Columbus, Ga.

Roger Megroz has joined Hess, Goldsmith & Co., New York, in the post of print stylist and in charge of sales promotion. He will work in conjunction with **Louis J. Brenner** of that firm.

Miss Jessica West has been made head of a fashion consulting service established by Julius Kayser & Co., New York.

William M. Grosse, superintendent of the Greensboro Full-Fashioned Hosiery Mills has resigned to become general superintendent of three new plants in the Pulaski, Va. section established by the Burlington Mills Corp. and **Thomas J. Wallner.** He is succeeded at Greensboro by **George Lynch.**

Joseph Meierhans, until recently in charge of fabric development for Farr Alpaca Co., has joined J. P. Stevens & Co., New York to be engaged in developing new spun-rayon materials for this organization.

Mrs. Louise Huston, of American Bemberg Corp., New York, spoke on April 25 before a label forum at Town Hall, New York, in a discussion sponsored by the Advertising Women of New York. She illustrated her talk with fabrics and garments made of Bemberg and displayed labels and tags which accompanied same into the hands of the consumer.

L. G. Moss has resigned as overseer of carding and spinning at Marshall Field & Co., Draper, N. C., and become assistant superintendent of Monaghan unit of Victor-Monaghan Co., Greenville, S. C.

J. C. Childers has been promoted from chief designer to overseer of weaving at Erlanger Cotton Mills, Burlington, N. C.

W. T. Morton is now overseer of spinning, spooling and warping at Borden Mills, Inc., Kingsport, Tenn. He was formerly with Florence Mills, American Spinning Div., Greenville, S. C.

Alex Turner, assistant superintendent of Avondale Mills, Alexander City, Ala., has been promoted to superintendent, succeeding the late **Jas. L. Byers.**

Chas. Y. Hall, Jr., formerly superintendent of Callaway Mills, Unity Div., LaGrange, Ga., is now night superintendent of Southern-Brighton Mills, Shannon, Ga.

J. C. Sproull, formerly with the Lancaster, S. C., plant of the Springs Cotton Mills, has become overseer of spinning at Whitney (S.C.) Mfg. Co.

O. A. Mace, overseer of weave room at Springstein plant of Springs Cotton Mills, Chester, S. C., has been promoted to overseer of weave room of Eureka plant of the same company at Chester.

CONGRATULATIONS on the centenary of the Naumkeag Steam Cotton Co. (Pequot Mills) reached a climax on April 10 at a dinner in the Hotel Hawthorne, Salem, Mass., when the Salem Chamber of Commerce's 25th anniversary was combined in a joint celebration with the textile plant in the presence of 300 attendants. Harry S. Perkins, purchasing agent of the mills, was toastmaster. Mayor Edward A. Coffey presented a bronze plaque on behalf of the city to Rudolph C. Dick, treasurer and general manager of the Naumkeag company. Above from left to right are Messrs. Dick, Benson and Perkins.

Haywood M. Doster, who has been Mr. Mace's assistant, has been promoted to overseer of weaving at Springstein plant succeeding Mr. Mace.

Glenn H. Alberga has resigned as personnel manager of Blackstone Plush Mills, Inc., Clinton, Mass.

Arthur Veevers, formerly with Glenlyon Dye Works, Phillipsdale, R. I., has been made chief dyer for American Thread Co., Willimantic, Conn., succeeding **Arthur W. Gates,** who has retired after 51 years service.

A. B. Brown has assumed his new duties as superintendent of No. 1 plant of Phenix Mills at Kings Mountain, N. C.

Aldine Johnson has become superintendent of the baling and shipping department of Swift Mfg. Co., Columbus, Ga.

Mrs. Elsie M. Evans of the Associated Merchandising Corp., was guest lecturer at the ninth meeting of the course on merchandising knitted wear being given at New York University by **Nathan E. Handler,** president of the Shepherd Knitwear Co.

J. D. Cassada, assistant manager of unit No. 2, Roanoke Mills Co., Roanoke Rapids, N. C., has resigned.

James W. Bell has become general manager of the Hartwell (Ga.) Mfg. Co., newly organized concern.

James D. Orr, formerly with Callaway Mills, LaGrange, Ga., is now employed by the Stark Mill of United States Rubber Products, Inc., at Hogansville, Ga. Mr. Orr, a former resident of Ozark, Ala., finished a Textile Engineering course at Auburn in 1937.

Christopher W. Buehl, formerly assistant foreman of spinning at American Viscose Corp., Lewistown, Pa., has been appointed foreman of the spinning room at the new unit at Front Royal, Va.

G. C. Rambow has resigned as overseer of spinning at Marlboro Cotton Mills, No. 5 unit, Bennettsville, S. C., and become assistant to overseer of card room, first shift, at the Sibley unit of Sibley-Enterprise Mfg. Co., Augusta, Ga.

L. A. Graybill, formerly supervisor of the tire fabric department of Bibb Mfg. Co., Columbus, Ga., is now associated with Morgan Cotton Mills, Laurel Hill, N. C., where he is carrying on development work.

Matthew Hunter has resigned as overseer at Pittsfield (N.H.) Mills, to accept a similar position in Lewiston, Me.

A. B. Brown, formerly of Belmont, N. C., has become overseer of carding at Phenix Mills, No. 1, Kings Mountain, N. C.

Joseph J. Norton has become superintendent of Goodyear Clearwater Mills, No. 1, Cedartown, Ga., succeeding the late Robert H. Stewart.

Samuel Stocks, for many years overseer of carding and spinning at Exeter (N.H.) Mfg. Co., has been named superintendent of Pittsfield (N.H.) Mills, succeeding **John E. Fothergill,** resigned.

B. S. Howard has been appointed superintendent of the Spray (N.C.) woolen mill unit of Marshall Field & Co.

Theodor Quasebart, formerly of the Masurel Worsted Mills, has joined the Universal Trading House, New York, in charge of the sale of French angora yarns.

H. E. Cooper, for the last 10 years designer at Canadian Cottons, Ltd., Cornwall, Ont., has resigned to join the management staff of a cotton mill in Finland.

John J. Lyons is chairman of the Committee on Arrangements which is preparing for the semi-annual meeting of the

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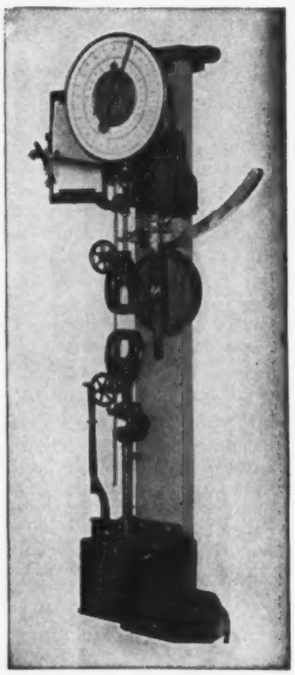


HENRY L. SCOTT CO.
101 Blackstone St. Providence, R. I.

National Association of Woolen & Worsted Overseers at Chopmist Hill Inn, North Scituate, R. I., May 20.

Timothy A. Harrington, superintendent of the Powdrell & Alexander, Inc., plants at Attawaugan and Ballouville, Conn., 60 years associated with the textile industry, retired from active business March 1 and will make his home at Providence, R. I., where he owns property. His successor will be **John F. Gardner,** Wauregan-Quinebaug Mills superintendent.

Frank R. Bentley has resigned as overseer of spinning of the Cocheco Mfg. Co., East Rochester, N. H., to accept a similar position in Somersville, Conn.

Armand Frank, textile designer, is conducting a textile designing school at Gastonia, N. C. The Gastonia Pilot Club is sponsor of the school.

Weldon Sterling has been named weaving overseer at Gordon Woolen Mills, Hillsborough, N. H., to succeed **David Hall,** who resigned because of illness.

William Jacomini has been appointed overseer of dyeing at Matson Mills, South Glastonbury, Conn.

Walter O'Connell is now in charge of dyeing at Mayo Woolen Mills, Millbury, Mass.

Joseph Nedroscik has been put in charge of dyeing at Millbury (Mass.) Woolen Mills.

Hugh S. Owen, formerly with the Cowikee Mills, is now with the Geneva (Ala.) Cotton Mills. He is a textile engineering graduate from Auburn in 1938.

E. C. Jones, formerly with the Gloria Rayon Mills, Johnson City, Tenn., is now employed by Sears Roebuck in the cloth department at Memphis, Tenn. Mr. Jones is a former resident of Birmingham and textile engineering graduate from Auburn in 1938.

J. Morgan Jackson has been made superintendent of Calumet Mill, of Callaway Mills, Inc., LaGrange, Ga. Mr. Jackson is a former resident of Clairmont Springs, Ala., and a textile engineering graduate from Auburn in 1934.

Halstead Heap, in charge of the printing and color departments of Rock Hill (S.C.) Printing & Finishing Co., has resigned.

Eugene Gula of New Bedford, Mass., has been appointed laboratory technician with the J. P. Stevens & Co., New York.

J. C. Pickle has assumed his new duties as assistant manager of Willinca Cotton Mills at Marietta, Ga.

James Dickert has resigned his position with a unit of the Callaway Mills, LaGrange, Ga., to become overseer of spinning, second shift, Laurens (S. C.) Cotton Mills.

Tom Moore has resigned his position with the Watts Mills, Laurens, S. C., to become overseer of spun rayon carding at Aragon-Baldwin Cotton Mills, Rock Hill, S. C.

G. D. Cox has resigned as overseer of weaving at Hartsville (S. C.) Cotton Mills, and has accepted a similar position with the No. 2 unit of the Hannah Pickett Mills, Rockingham, N. C.

J. B. Morris, formerly with the knitting department of Wiscassett Mills, Albemarle, N. C., is now superintendent of the new Wadesboro (N. C.) Full-Fashioned Hosiery Mills.

M. J. Peterzell has become manager of the Jackson County Mills, Pasagoula, Miss., unit of the Onyx Knitting Mills, Philadelphia, Pa.

C. L. Fields has become assistant to the overseer of spinning at Greenwood (S. C.) Cotton Mills.

Edward Quintard, graduate of N. C. State Textile School, has been made assistant designer at Swift Mfg. Co., Columbus, Ga.

C. R. Peace, graduate of Georgia Tech, has been put in charge of testing and efficiency at Columbus (Ga.) Mfg. Co.

J. P. Clark has been made overseer of finishing at Swift Mfg. Co., Columbus, Ga.

John Layne has been made overseer of the cloth room at Riverdale Mills, Enoree, S. C.

Roy Boiter, of Wellford, S. C., is now superintendent of Jackson Mills No. 3, High Shoals, N. C.

Winborne W. Sanders has been made manager and superintendent of Caswell Knitting Mills, Inc., Yanceyville, N. C.

Fred C. Adams has resigned as overseer of spun rayon carding at Aragon-Baldwin Cotton Mills, Rock Hill, S. C.

L. H. Rice, formerly general superintendent of Alabama Mills, Inc., Birmingham, Ala., has become general manager of Opelika (Ala.) Mills, succeeding **A. S. Thomas,** who resigned to become general manager of Werthan Bag Corp., Nashville, Tenn.

C. A. Townes, agent for Aragon (Ga.) Mills, has also become agent for Floyd Mills, Rome, Ga.

Claude Kichlein has become superintendent of a new plant of Chipman, Inc., manufacturers of full-fashioned hosiery at East Flat Rock, N. C.

Ben Wrape, formerly of Charlotte, N. C., has become foreman at Argus Hosiery Mills, Sevierville, Tenn.

C. G. Voss has resigned as superintendent of Imperial Cotton Mills, Eatonton, Ga.

W. P. Stowe is now superintendent of Crescent Spinning Co., Pelmont, N. C.

Ernest Sullivan is now overseer of spinning at Laurens (S. C.) Cotton Mills.

E. H. Steere, manager of Ashboro (N. C.) Hosiery Mills, recently made a hole-in-one at the Ashboro Golf Club.

D. H. Kennemur, formerly second-hand of dyeing, Union Bleachery, Greenville, S. C., is now affiliated with Renfrew Bleachery, Travelers Rest, S.C., in a similar capacity.

J. C. Jenkins has been appointed overseer of the cloth room at the Pee Dee Mfg. Co., No. 1 unit, Rockingham, N. C.

Erwin Gale has been promoted to overseer of the carding room, third shift, of Hannah Pickett Mills, No. 2 unit, Rockingham, N. C.

Paul McCollum is now assistant superintendent of the No. 6 unit of Cannon Mills Co., Concord, N. C. He is a graduate of the North Carolina State College.

R. K. Patrick has resigned as manager and superintendent of the Cayauga Linen & Cotton Mills, No. 2, Lexington, N. C., to accept a similar position with a mill at Englewood, Tenn.

D. C. Pittman, formerly of Knoxville, Tenn., has assumed his new duties as general superintendent of the Yount Hosiery Mills, Newton, N. C.

Walter Pilgrim, in charge of the print department of Rock Hill (S. C.) Printing & Finishing Co., has assumed the duties of **Halstead Heap,** who resigned as head of the color and print department.

Edward Ottney, formerly superintendent of dyeing at Auburn Mills, Peterborough, Ontario, is now occupying a similar position with the Western Felt Co., Chicago, Ill.

Frederick Lippmann has joined the staff of the Putnam (Conn.) Woolen Co., in an executive capacity.

R. T. Ashley is now southern sales representative for the Mount Airy (N. C.) Knitting Co.

John E. Smith has become assistant superintendent of Laurens (S. C.) Cotton Mill. He was formerly connected with Mills Mill, Woodruff, S. C.

James B. Duggan, for the last five years assistant superintendent of Uncas Finishing Co.'s plant at Mechanicsville, Conn., has been advanced to superintendent, succeeding **Paul F. Fabian** who has become manager of Arkwright Finishing Co., Fall River, Mass.

G. Howard Smith, who for some time has been overseer of spinning at the Lindale, Ga., plant of Pepperell Mfg. Co., has been promoted to assistant superintendent, and has been succeeded by **Ellis Whitehead,** former night overseer of carding.

Obituary

Thomas H. Webb, 68, retired cotton mill executive and former president of the American Cotton Manufacturers Association, died in Atlanta, April 10 while on his way to the annual convention of that Association in New Orleans. Before his retirement in 1936 he was president of Locke Cotton Mills Co., Concord, N. C. He was active in the southern industry for about 50 years having taken his first job in 1886 with Glencoe Mills at

THOMAS H. WEBB

Burlington, N. C. At the age of 25 he became superintendent of Eno Cotton Mills, Hillsboro, N. C He was for many years connected with Erwin Mills and succeeded the late W. A. Erwin as president of the Locke Cotton Mills in 1932 He was active in associational work and was president of the Cotton Manufacturers Association of North Carolina in 1928

Arthur Schwarz, 72, president of Princeton Worsted Mills, Trenton, N. J., died at Hershey, Pa. on April 16 while on his way back to New York from a vacation spent at White Sulphur Springs. Born in Austria, he came to this country, and, at the age of 24, started Fulton (N.Y.) Worsted Mills in 1892 in conjunction with Charles Fletcher and John W. Mary. These mills originated the famous 3192 serge which is still one of the barometers of the wool goods market. The plant was later sold to American Woolen Co. and after a brief interval Mr. Schwarz established the Princeton Worsted Mills, of which he remained the active head until his death. He was a leader in production and styling of quality worsteds for the men's wear trade.

John P. Hudson, 70, former president of Wagaraw Silk Dyeing Co., Paterson, N. J., died in Florida early last month.

John A. Porter, 68, retired head of the manufacturing department of Bibb Mfg. Co., Macon, Ga., died in Florida.

John MacIntoch Call, 96, former member of the Boston wool house of Call & Tuttle, died at his home in Belgrade, Me., on April 14.

Ryoichiro Arai, 83, director of the importing firm of Morimura, Arai & Co., New York, died April 10. Within three days of his death he was still active in directing the firm which he helped to establish in 1876.

George W. Hundley, 68, president of Golden Belt Mfg. Co., Durham, N. C., died April 4. He had held that office since 1922.

Caleb F. Wright, 82, for nearly 64 years associated with the Philadelphia Office of Joshua L. Bailey & Co., died last month

Herbert M. Wilson, 83, retired yarn and shoddy manufacturer, died March 29 in Uxbridge, Mass.

Joseph A. DeWolfe, 77, for many years president and manager of the Oxford Woolen Mills, Ltd., Oxford, N. S., died recently at his home in Oxford.

Charles A. Sheffeld, 66, for many years an officer and director of the Corticelli Silk Co., Florence, Mass., died April 13. He designed the kitten and ball of yarn trademark used by Corticelli.

Walter M. Brice, for many years manager supply department in the Atlanta, Ga., division of Draper Corp., died April 4. He is survived by three sons, all in Draper employ; Wm. M. and R. S. Brice, the twins, connected with the Spartanburg office, and Plott Brice, a younger son, in the Atlanta office.

Clifford W. Post, office manager of Torrington (Conn.) Co., manufacturers of needles, died April 19 at Bellevue-Stratford Hotel, Philadelphia, Pa.

William Edgar Poovey, 55, superintendent of Falls Mfg. Co. and Dudley Shoals Cotton Mill Co., Granite Falls, N. C., and founder of the Granite Hosiery Mill, is dead.

Charles W. Rusk, 57, assistant to the advertising manager of Proctor & Schwartz, Inc., Philadelphia, died April 22. He had been with that department over 20 years.

James H. Gahan, 52, for the last 20 years credit manager for Colonial Silk Mills, New York, died April 17.

Garnett McMillan, 64, retired textile executive and at one time president of Richmond Hosiery Mill, died in Chattanooga, Tenn. recently.

Lew W. Lampl, a founder and until recently sales manager of Lampl Knitwear Co., Cleveland, Ohio, died in Florida April 12.

George C. Hix, 47, superintendent of Vogue Knitting Mill, Womelsdorf, Pa., died recently.

John A. Weddall, 76, secretary-treasurer of Fountain Cotton Mills, Tarboro, N. C., for a number of years, died recently.

Walter G. Libby, 65, member of the woolen firm of Libby, Huff & Co., New York, died April 5.

Vincent J. Iandoli, 79, who retired several years ago after 26 years as engineer for Weidman Silk Dyeing Co., Paterson, N. J. died April 8. Several of his sons are in the textile dyeing and allied trades.

Charles Milnes, 83, vice-president of Copeland-Milnes Wool Co., Chicago, Ill. died in Florida last month. He had been connected with the wool trade for about 70 years.

Edwin Wilbur Emery, 81, at one time prominently connected with the Onyx Hosiery Co., New York, died last month.

Charles W. Dulles, Jr., 55, associated with the old wool firm of Justice Bateman & Co., Philadelphia, and more recently with the wool top department of George H. McFadden & Bros., died April 5.

Frank M. Sheppard, 84, retired textile chemist and colormaster, formerly with the Richmond Print Works, Providence, R. I., Arnold Print Works, North Adams, Mass., and later assistant manager of the Pacific Mills, Lawrence, Mass., died at Providence March 25.

Jabez Wilkinson, 78, former superintendent of Narragansett Mills, Fall River, Mass., and a patentee of many textile inventions, died on April 6 at Fall River.

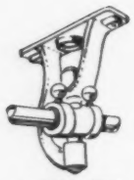
Oscar E. Hough, 67, Boston wool merchant, former vice-president of the Kinderhook (N.Y.) Knitting Mills, director of the Jewell Brook Woolen Co., and Black River Woolen Mills, Ludlow, Vt., died at Hingham, Mass., March 30.

William Baum, 61, director of personnel and industrial engineering at the Real Silk Hosiery Mills, Indianapolis, Ind., for 15 years, died recently.

William A. Abernathy, 71, connected with the Shelby (N.C.) Cotton Mill for the last 40 years, as machinist died recently.

John P. Walworth, 78, partner in the worsted firm of Walworth Bros., Inc., Lawrence, Mass. until his retirement 10 years ago, died last month.

LESS OIL... LESS OFTEN



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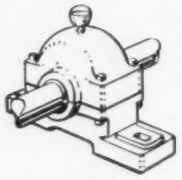

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MILL NEWS

Cotton Mill News

Monticello (Ark.) **Cotton Mills Co.** were not damaged by the tornado which swept the town on Apr. 17 destroying 35 homes and leaving 22 dead outside of the mill community.

California Cotton Mills, Oakland, Calif., reports net loss for 1938 of $246,025 compared with net loss of 1937 of $20,219.

Powdrell & Alexander, Inc., Danielson, Conn., has moved into a new plant at Charlotte, N. C., which will turn out 500,000 yd. of curtain material weekly.

Swift Mfg. Co., Columbus, Ga., recently awarded contract to A. K. Adams & Co., Atlanta, Ga., for erection of two-story weaving mill 210 x 290 ft. to replace present weave shed which will be removed. Cooling and Air Conditioning Division, B. F. Sturtevant & Co., was awarded contract for complete air conditioning system. Grinnell Co. will install sprinklers. Structural steel will be furnished by Virginia Bridge Co. Robert & Co., engineers, of Atlanta, have charge of the project.

Summerville (Ga.) **Mfg. Co.,** formerly the Summerville Cotton Mills, have been put back into operation by the North Georgia Mfg. Co. and Curran & Barry of New York, former selling agents of the mills.

Tabor Mill, New Bedford, Mass., idle since 1937, has been acquired from RFC by a new corporation and was scheduled to begin operations about May 8 under the name of Tabor Mills, Inc., manufacturing adhesive tape and a new product to be known as "Air-flo" tape and bandages. The plant has 1,100 looms and 45,000 spindles. Arthur C. Koerner, New York, is president, and Joseph C. Worth, New London, Conn., is treasurer and general manager.

Randolph Mills, Inc., Franklinville, N. C., has begun work on addition, 32 x 100 ft. to the dyeing department.

Textile School of the Jackson Training School, Concord, N. C., has begun manufacture of hickory shirting. James Walton, formerly with the Cannon Mills Co., has charge, and has been teaching the boys to operate the machines.

Granite Cordage Co., Granite Falls, N. C., plans installation of additional equipment, including 70 braiders and accessories.

High Falls (N.C.) **Mills, Inc.,** are now being operated by John Milton Presnell, who has leased the plant. Mr. Presnell was formerly secretary of the company, until he took it over.

High Point (N.C.) **Weaving Co.** announces plans for warehouse addition to cost $15,000. It will be one-story, 100 x 150 ft.

Linn - Corriher Mills, Landis, N. C., have begun erection of a two-story addition to their Corriher mills, 100 x 175 ft., estimated to cost over $65,000.

Columbia Mfg. Co., Ramseur, N. C., has completed a modernization and expansion program, including installation of new one-process picking, automatic blending reserves and other equipment.

Beacon Mfg. Co., Swannanoa, N. C., is enlarging its plant. Daniel Construction Co. has the contract.

Courtney Mfg. Co., Newry, S. C., has been purchased by J. B. Abney and associates of Greenwood, S. C. The plant has been closed for some time.

Pelham (S.C.) **Mills,** in receivership, have been purchased by J. P. Williamson, executive vice-president of Dixie-Home Stores, Inc., Greenville, S. C., a chain grocery company, for a reported consideration of $40,000, with real estate totaling 310 acres of land.

Wymojo Mills of Textiles, Inc., Rock Hill, S. C., are being dismantled, and machinery and equipment transferred to Gastonia, N. C., where it will be used in the Priscilla Mill, owned by the same interests. The Wymojo mill and property will be placed on the market.

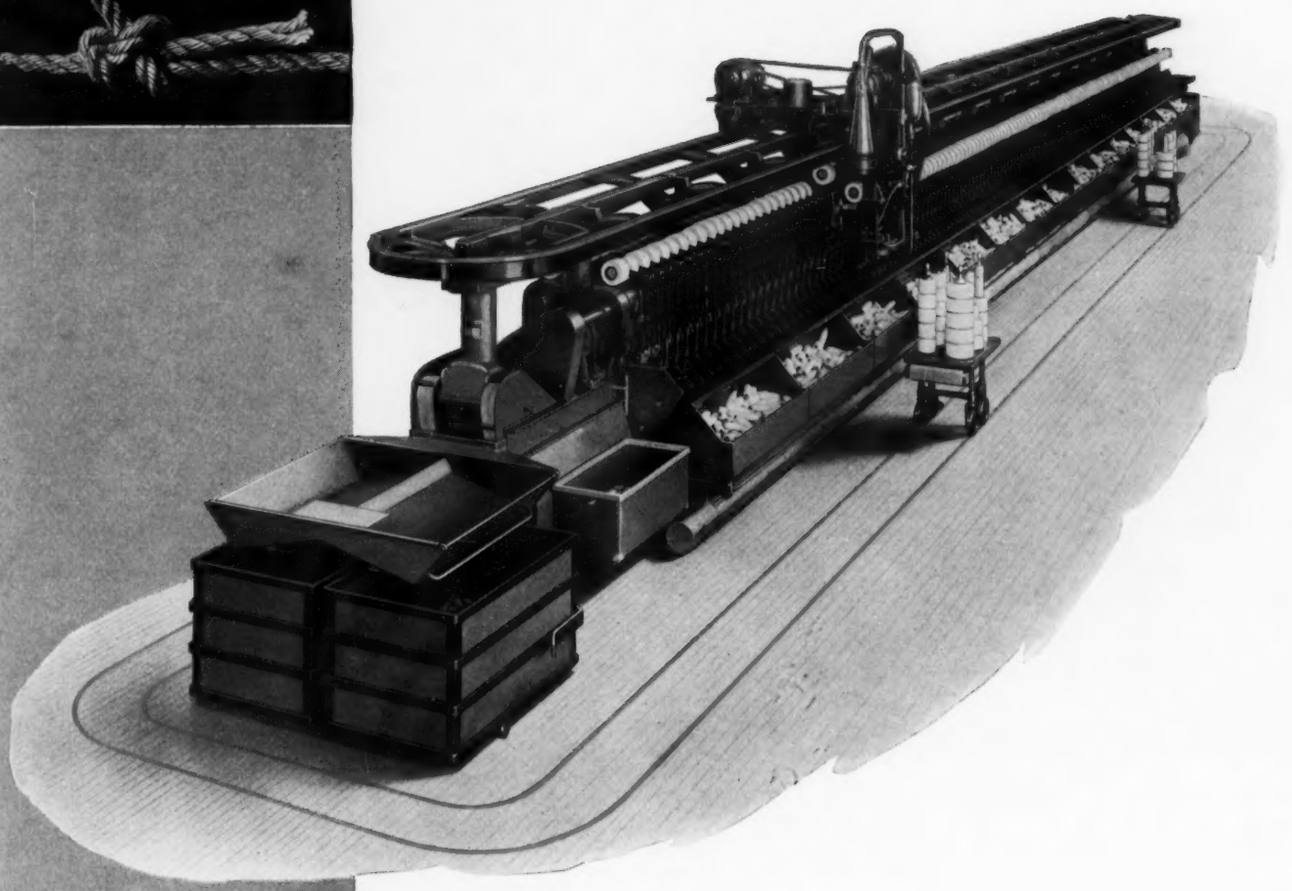
Lockmore Mills of Textiles, Inc., York, S. C., operating about 6000 spindles, are being dismantled, and machinery will be transferred to Gastonia, where it will be used in a local mill.

Esmond Mills, Ltd., Granby, Que., will build a new weave shed 220 x 85 ft. Machinery to be purchased during the year includes 42 jacquard looms, six sets of cards, six spinning frames, four nappers.

Dominion Textiles Co., Ltd., Merchants Branch, Montreal, Canada is about to install 56 Saco-Lowell ring-spinning frames equipped with Roth long-drafting. The company has completed the installation of 43 similar frames at the Montmorency Branch, Quebec.

J. & P. Coats, Ltd., of England, reports net profit for

"EVERY KNOT A WEAVER'S KNOT"



Consistently uniform and perfect Weaver's Knots, tied by a fully automatic mechanism, enhance quality of goods woven from Barber-Colman warps.

BARBER-COLMAN Automatic Spooler

BARBER-COLMAN COMPANY

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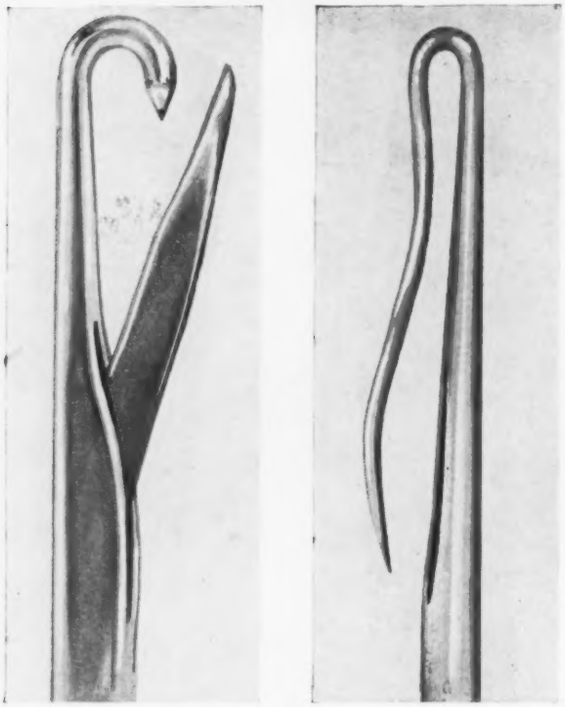
COOPER NEEDLES



ARE SECOND TO NONE

Charles Cooper Company are makers of both spring needles and latch needles of the very highest quality. The very latest devices and controls are used in the tempering equipment, thus insuring the greatest possible precision in uniformity of temper.

Every step is closely guarded by automatic equipment which is accurate and positive in its action, thus holding everything to the exact time limit set for each and every function in the tempering process.

The very latest ideas in automatic needle-making machinery are embodied in every automatic machine used by the company in the manufacture of its needles, both spring and latch; and therefore all the many advantages that are inherent in an automatic machine-made product are very definitely represented in the needles of Cooper manufacture.

All this is backed up by workers who have spent a lifetime at the busines of making needles and have become familiar with very phase of the fine art of needle making.

The user of Cooper needles gains all the benefits possible from this efficient and experienced force of workers, together with the very highest grade of steel wire obtainable, the use of automatic devices for hardening and tempering and also the latest ideas in automatic machines to form the wire into its various shapes and sizes.

On all this is based our claim that we make a needle that is second to none in all the important qualities required in a knitting needle.

CHARLES COOPER CO., INC.
Bennington, Vermont, U. S. A.

MILL NEWS

1938 of £1,535,297 compared with £2,077,459 for the previous period.

Wool Mill News

Kerr Rug Mfg. Co., Inc., Fresno, Calif., has completed an expansion program, costing $25,000.

Park Mills, Inc., Sabattus, Me.—A voluntary petition in bankruptcy has been filed by this company.

Goodall Worsted Co., Sanford, Me., has sold its mill property in Waterboro, Me., to a leather manufacturer.

Farr Alpaca Co. directors have approved the disposition of No. 3 unit, the top mill, in Holyoke, Mass. to Eugene R. Alderman, former superintendent of the Farr. Mr. Alderman plans to establish the Alderman Top Mfg. Co. in this four-story mill with some 200 employees. H. M. Sinclair and Arthur Krall will be associated with Mr. Alderman. The committee handling the Farr liquidation is considering other plans for the rest of the plant.

Mayo Woolen Mills Corp. Millbury, Mass. has filed a petition for reorganization under the bankruptcy act in the Federal court.

Blackinton Co., North Adams, Mass., has been taken over by the RFC which loaned it $250,000 over a period of years.

Jackson County Mills, Pascagoula, Miss., are completing the installation of new equipment at woolen mill to double present capacity.

Botany Worsted Mills, Passaic, N. J., reports net loss for 1938 of $336,085, against loss of $1,254,917 in 1937. Net sales, at $11,151,065 in 1938 were only 16% below 1937 while decreases among mills comparable to Botany were 40 to 45% according to C. F. H. Johnson, president.

National Worsted Mills, Inc., Jamestown, N. Y., plan extensions and improvements in mill at Falconer, near Jamestown. Beck & Tinkham, Jamestown, are architects.

Collins & Aikman Corp., New York, reports net income of $1,195,025 for fiscal year ended Feb. 25, 1939, against net income of $2,405,461 for the previous fiscal year.

Chatham Mfg. Co., Elkins, N. C., is beginning work on mill addition, totaling about 145,000 sq. ft., to be used as a finishing unit, with transfer thither of present mill at Winston-Salem, N. C. A one-story warehouse, about 50,000 sq. ft., also will be built.

Swift River Woolen Co., Inc., Westerly, R. I., has purchased the Intervale Mills, Inc., Dudley, Mass. John Quinn, Jr., president of the Swift River company said the Massachusetts mill, closed for nearly a year, will soon be reopened.

Brucetown Woolen Mills, Inc., Clearbrook, Va., was bought at trustees' sale by William H. Lawrence, Jr., of Chambersburg, Pa., who will operate it. Mr. Lawrence is president of Blue Ridge Woolen Co.

Rayon & Silk Mill News

Cambria, Calif. The Chamber of Commerce has announced that a velvet factory will be brought to the district, operating more than 25 looms.

Mount Airy (Md.) Textile Mills, Inc., recently organized, has work nearing completion on one-story silk mill. Plant represents investment of about $40,000.

Jewel Silk Co., Paterson, N. J., has recently begun operation of mill giving employment to about 45 persons.

Katterman & Mitchell Co., Paterson, N. J., silk manufacturers for more than 50 years discontinued operations there indefinitely on Mar. 31. Its plants at Stanley and Columbus, N. C. are to be sold.

Fulton (N.Y.) Silk Mills, Inc., will be sold at public auction at 10 A.M., June 1, at the mill. Maurice B. Conley was named by the court as referee to conduct the sale.

Celanese Corp. of America, In., New York, N. Y., has let general contract to Hughes-Foulkrod Co., Philadelphia, Pa., for initial units of its "New River" mill near Pearisburg and Narrows, Va., consisting of two three-story structures, each 270 x 452 ft., and auxiliary buildings. A power house will be built. Completion is scheduled within six months and operation may be possible early in 1940. Cost estimated close to $5,000,000. A new strong yarn will be manufactured. Celanese Corp. shows a profit for the first 1939 quarter of over $1,000,000 comparing with $114,000 in the first 1938 quarter.

North American Rayon Corp., New York, reports net earnings for the first 12 weeks of 1939 of $324,458 against net loss of $14,856 for similar 1938 period.

Burlington (N.C.) Mills Co. has let contract to Charles W. Angle, Inc., Greensboro, N. C., for one-story addition to mill on Silk St. Cost close to $40,000.

MILL NEWS

Burlington Mills have also awarded contract for one-story, brick addition to their plant in Lexington, N. C., to Griff W. Smith, Lexington, at cost of $20,000.

Clifton Yarn Mills, Clifton Heights, Pa., have lately opened a department for all varieties of silk sewing threads. They have experimental lots of Nylon in process. This department of the business is in charge of Martin Sandler.

Gettysburg (Pa.) Throwing Co. is completing installation of 20 machines in addition to 265 previously put into operation.

American Viscose Corp., Marcus Hook, Pa., has changed the projected lay-off reported last month to a reduction of working hours, giving the desired curtailment but avoiding a local unemployment problem.

Pennsburg (Pa.) Silk Mill has been bought by A. A. Dankel of the D. S. & D. Silk Co., Allentown, and A. G. Hofamann former manager of silk plants in that city. Plant has 75 looms.

American Viscose Co's. Front Royal, Va., plant will not be ready for quantity production until late next fall. Much of the product of this new plant will be consumed by automobile tire manufacturers.

Knitting Mill News

Spinks Hosiery Mills, Dallas, Ga., has begun operations, with George W. Henderson, manager. It will be factored by the Trust Co. of Georgia.

Ackshand Knitting Co., Ballston Spa., N. Y., has leased building on South Street for additional plant to run on knitted goods formerly imported from Czechoslovakia.

Van Raalte Co., Inc., has bought a plant of the American Locomotive Co. in Dunkirk, N. Y., to expand its manufacturing operation. Van Raalte reports net profit for first quarter of 1939 of $249,346, against $183,003 for first quarter of 1938.

Nolde & Horst Sales Co., New York, will act as selling agent for the Burlington (N.C.) Mills hosiery mill chain now being erected in Virginia in cooperation with Thomas J. Wallner.

Perry (N.Y.) Knitting Co. is beginning two-story addition, 80x100 ft.; cost close to $45,000 with equipment.

Asheville (N.C.) Hosiery Co. has completed one-story addition for expansion in knitting division.

Monarch Hosiery Mills, Inc., Burlington, N. C., formed with capital of $100,000, will manufacture and sell hosiery and other knit goods. Incorporators: Margaret E. Fogleman, C. G. McCuiston and J. W. Keziah, all of Alamance.

Elliott Knitting Mills, Inc., Catawba, N. C., have begun one-story addition, to be equipped as a dyehouse. Cost reported close to $25,000.

Star Hosiery Mills, Inc., Conover, N. C., recently organized with capital of $100,000, plan production of full-fashioned hosiery. Incorporators include P. P. Herman, W. C. Barringer and C. A. Bolick, Conover.

Shuford Hosiery Mills, Hickory, N. C., have been sold by Wade H. Shuford to Mr. and Mrs. J. T. Shipman and Mr. and Mrs. E. P. Rhyne. The new officers are: Mr. Shipman, president; Mr. Rhyne, secretary and treasurer, and Mrs. Rhyne, vice-president.

Josephine Mills, Inc., Marion, N. C., a new corporation organized to take over the No. 1 unit of the Elizabeth James Mill, was put into operation last month.

R. L. James & Son, Marion, N. C., men's half hose, are engaged in expansion, including erection of a 50x100 ft. building. Additional machinery will be installed.

Huffman Full-Fashioned Mills, Inc., Morganton, N. C., newly organized, have put the first of 10 machines in operation. New company is capitalized at $250,000.

Whitehall Knitting Mills, Inc., Mount Holly, N. C., with authorized capital of $300,000, has been formed to make hosiery and other knitted products. Incorporators are H. A. Kelly, J. H. Head, T. A. Komorowski and Bruno Barchuk.

Wyatt Knitting Co., Sanford, N. C., newly organized full-fashioned hosiery mill, has just gotten into operations, with W. F. Wyatt of Burlington, N. C., president.

Hanes Hosiery Mills Co., Winston-Salem, N. C., has approved plans for immediate erection of three-story addition, about 250x250 ft., which will cost about $300,000 with machinery. New unit will increase capacity by more than 80%. Albert Kahn, Inc., Detroit, Mich., is architect and engineer.

North American Knitting Co., Mansfield, Ohio, plans one- and two-story addition. Cost over $35,000, with equipment. Althouse & Jones, Mansfield, are architects.

Oscar Nebel Co., Hatboro, Pa. (with plants also at Staun-

PARAMOUNT Dual Heat Hosiery Finishing Machine

CREATING Incomparable Quality in Hosiery Finishing and Establishing Production Figures that are truly amazing, the Paramount Dual Heat Machine will revolutionize and simplify your hosiery drying and finishing methods.

Compare this Machine with your present equipment. You will find that it requires less square feet of floor space per dozen than any existing method of finishing; less steam consumption — heating is direct; less power — a one-quarter horsepower motor operates the entire machine; less investment per dozen — reasonably priced; less upkeep — built to render years of service; and production possibilities with quality work that cannot be challenged.

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MILL NEWS

ton and Verona, Va.) offered a reorganization plan before the Federal Court in Philadelphia in March. The plan left no equity for the common stock and has been challenged by the chief common stockholder.

Cambridge Knitting Mills, Inc., Philadelphia, Pa., recently organized by Samuel Bookbinder and associates, have acquired machinery and equipment of the Pure Wool Sweater Mills, 4619 Wayne Ave., and will operate.

E. Sutro & Son Co., Inc., Philadelphia, Pa. All machinery and equipment of this company were sold recently in a final liquidation.

Mary Louise Mills, Mayo, S. C., has been sold to Paul M. Neisler, Kings Mountain, N. C. No plans have been revealed, but indications are that the plant will be reopened.

H. A. Vestal, Athens, Tenn., hosiery manufacturer, and associates, have plans for a $250,000 hosiery mill in Blue Ridge, Ga. Construction work will be started by May 15, and the plant is scheduled to get into operation about Oct. 1. Thirty-six machines will be installed for women's full-fashioned silk hosiery.

Miller-Smith Hosiery Mills, Chattanooga, Tenn., are installing equipment in new mill at Delano, Tex., to be ready for operation early in the summer.

Richmond Spinning Mills, Chattanooga, Tenn., is in hands of T. N. VanDyke, Willard Warner, C. B. Bagley, E. Y. Chapin and Edward McMillan, as liquidating trustees. Both cotton yarn mill and knitting department have been closed sometime.

Franklin Fabrics, Inc., Elizabethton, Tenn., announces the purchase of two additional machines of the Schneider & Reuthner high-speed tricot type for manufacture of run-proof underwear, glove material and dress goods.

Charles H. Bacon Co., Loudon, Tenn., is erecting a one-story addition, 100x296 ft., instead of a smaller size unit first planned, and will install 25 new knitting machines with auxiliary equipment. An air-conditioning system will be installed.

Judith Hosiery Mill, Niota., Tenn., recently completed a plant addition and is installing 20 additional machines as part of an expansion program.

Rutledge (Tenn.) **Hosiery Mill,** capitalized at $100,000, has been formed to manufacture hosiery.

Culpepper Hosiery Mills, Danville, Va., are a newly established industry.

Carroll Silk Hosiery Mills, Inc., Hillsville, Va., recently organized as an interest of Thomas J. Wallner, head of Virginia Maid Hosiery Mills, Inc., Pulaski, Va., and Burlington (N.C.) Mills Co., with capital of $300,000, has taken over a new building at Hillsville, lately completed by the municipality, and will occupy for production of full-fashioned hosiery.

Grayson Full-Fashioned Hosiery Mill, Independence, Va., recently organized by Thomas J. Wallner, head of Virginia Maid Hosiery Mills, Inc., Pulaski, Va., and associates, has awarded general contract to Fiske-Carter Construction Co., Spartanburg, S. C., for new one-story mill on State Highway No. 58, near Independence, the ninth plant in his chain of mills. Initial equipment will comprise 24 full-fashioned machines. Air-conditioning will be installed by Parks-Cramer Co., Charlotte, N. C. H. V. Biberstein, Charlotte, is architect.

Salem, Va.—Building, 153x114 ft., has been completed for hosiery plant by Thomas Wallner and associates; 12 to 15 full-fashioned machines will be installed.

West Point (Va.) **Hosiery Co.** is a newly established mill for manufacture of full-fashioned hosiery.

Processing Plant News

U. S. Hand Prints & Textile Mfg. Co., Los Angeles, Calif., has been granted a certificate to conduct business at 726 Santa Fe Ave. Owner is I. Steineman.

Lowell Bleachery South, Griffin, Ga., has completed erection of a three-story addition, 102x110 ft.

Greenville (R.I.) **Finishing Co., Inc.,** has asked bids for one-story addition to boiler house, estimated to cost $45,000. C. R. Makepeace & Co., Grosvenor Bldg., Providence, R. I., are architects.

Rhode Island Dyeing Co., Providence, R. I., has been dissolved as a company, but it will continue to operate as in the past as the dyeing department of American Silk Spinning Co. which owns 99.8% of its stock.

Parker Hosiery Mill & Dye Works, Inc., Portsmouth, Va., are applying to RFC for loan of $75,000. It is hoped to have William Ellis of Gastonia, N. C., as manager if the reorganization plan goes through.

J. L. Stifel & Sons, Inc., Wheeling, W. Va., is building a two-story, 50x60 ft. addition.

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No tiring, back-breaking, arm-straining movements are necessary in boarding stockings on the Proctor & Schwartz Machines. In fact, with the new seat rests, "boarders" can even sit down while they work. When boarders are perfectly comfortable and their job can be done with the greatest ease, the work they produce is consistently of the very best. Even at high production (such as 220 dozen pairs in 8 hours with 2 boarders) this perfection is maintained. Proctor & Schwartz long ago recognized the importance of the boarders' comfort and literally built the machines around their most comfortable boarding position. For further details on the Proctor Automatic Boarding, Drying, Stripping, Piling and Counting Machines for women's stockings or men's socks ask for "The Machine of the Hour".

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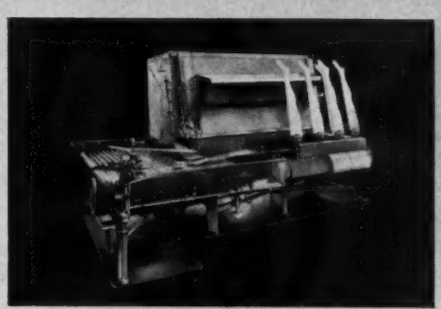
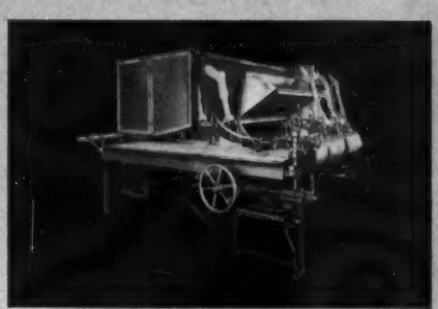


Left—Proctor Automatic Machine for Women's Stockings.

•

Right — Proctor Automatic Machine for Men's Half Hose.



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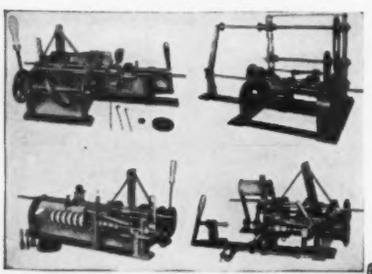

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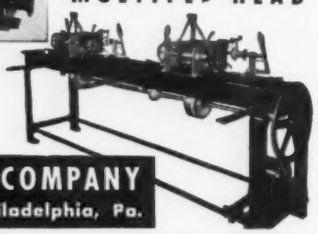
We manufacture twenty styles of spooling machines for as many material combinations.



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FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Spinning Equipment. Saco-Lowell Shops. February issue of *Saco-Lowell Bulletin* contains article on "The Cushion Bearing Bobbin and Sleeve Spindle"; also other interesting material.

Alloy Products. Haynes Stellite Co. Booklet presents physical, mechanical, and chemical properties of principal alloy products of this company, together with brief description of each product.

Warp Sizing. Charles B. Johnson. April issue of *Rayon Warp Sizing Specialist* contains article on modernization as applied to rayon processing.

Fibre Products. Continental-Diamond Fibre Co. New catalog describes and pictures company's fibre boxes, trucks, cans, baskets, etc.; included are descriptions of several recently introduced products.

Travelers. Victor Ring Traveler Co. April issue of *The Traveler* contains article describing progressive layout for spinning fine combed yarn from Pima cotton.

Paints. Sherwin-Williams Co. 24-page catalog describes and pictures uses of Kem Lustral, a new enamel recently developed by this company.

Finishing Equipment. Riggs & Lombard, Inc. Three catalog leaflets, describing a stainless-steel stock-dyeing machine, a stainless-steel dye kettle, and a positive-pressure yarn steamer and conditioner.

Adjustable-Speed Motor. Crocker-Wheeler Electric Mfg. Co. Bulletin 251-A describes company's a-c., adjustable-speed, Polyspeed motor; contains information not given in previous bulletins.

Throwing Equipment. Atwood Machine Co. March issue of *Atwood Twists* describes and pictures company's machines shown at recent textile exhibitions.

Feed-Water Control. Bailey Meter Co. Bulletin 105 describes system which measures feed-water flow to boiler, steam flow from boiler, boiler water level; and equalizes feed-water input and steam output at all times.

Automatic Cleaners. American Monorail Co. 20-page catalog describes and pictures company's automatic cleaning equipment for spinning, winding, spooling, and warping departments; included are many photographs of textile-mill installations.

Pressure Fan. B. F. Sturtevant Co. Catalog 444 describes and pictures company's new Axiflo pressure fan; includes capacity tables, dimensions, corrosion resisting tables, and application data.

Dyeing Equipment. S. Blickman, Inc. Illustrated folder describes company's new stainless-steel dye jig and dye box; data on construction features of each is included.

Storage Equipment. Lyon Metal Products, Inc. Catalog illustrates and describes construction and use of steel tool-storage equipment; included are descriptions of methods of bar storage, shop equipment, inclosure panels, and tool and die storage.

Plastic Products. Bakelite Corp. April issue of *Bakelite Review* contains short item and photograph showing application of Bakelite products to bobbins, quills, and other equipment.

Lubricating System. Bowen Products Corp. Catalog No. 76 describes electric automatic lubricating system manufactured by this company; includes construction data and installation charts.

Linestarters and Motors. Westinghouse Electric & Mfg. Co. Leaflet 11-200 describes non-reversing linestarters for squirrel-cage and wound-rotor motors; Pamphlet B2131 describes combination linestarter, which combines a De-ion linestarter and a De-ion circuit breaker. Folder DMF-5850 describes capacitor-start fractional-horsepower motors; Bulletin DMF-5851 describes split-

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Good bearings are as essential on this streamlined Fletcher Extractor, with its V-belt drive, as on spinning and twisting frames, sanforizers, warpers, and other types of textile machinery. They must take varying combinations of radial and thrust loads on the main spindle as this machine centrifugally removes excess dye liquor from materials.

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(Continued from page 112)

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phase fractional-horsepower motors.

Stainless Steel. Allegheny Ludlum Steel Corp. Volume 1, No. 1, of *Steel Horizons* contains several articles on various phases of stainless steel, and numerous photographs showing a wide variety of applications.

Conveyors. Link-Belt Co. Illustrated catalog No. 1720 describes company's Peck overlapping pivoted belt carrier for handling coal, ashes, or other materials. April issue of *Link-Belt News* contains photograph and description of overhead conveying equipment in hosiery plant.

Lighting Fixtures. Miller Co. 16-page catalog describes and pictures company's fluorescent lighting fixtures; included are data on wiring, dimensions, light intensity, etc.

Electrical Cable. Anaconda Wire & Cable Co. Folder describes and illustrates company's ANW moisture-resistant insulated cable.

Chemicals. Stein, Hall & Co., Inc. Reprint of technical paper describing "Some Properties of Starch and Dextrine."

Ball and Roller Bearings. SKF Industries, Inc. 16-page illustrated catalog describes roller-bearing spindles, tap-tension pulleys, guide and idler pulleys, etc. Included are various application photographs.

V-Belts. Allis-Chalmers Mfg. Co. Bulletin 164 describes development and growth of use of company's V-belt drives for textile equipment; included also are data on textile and general-purpose motors.

Variable-Speed Equipment. Lewellen Mfg. Co. Catalog No. 40 describes variable-speed motor pulleys manufactured by this company; included are photographs, diagrams, rating tables, and other useful information.

Reflectors. Fostoria Pressed Steel Corp. Booklet describes company's reflector equipment for overhead, table, or bench mounting of fluorescent lamps.

Agitators. Patterson Foundry & Machine Co. New leaflet describes company's Unipower agitator; includes photograph and description of outstanding features.

Water Analysis. W. H. & L. D. Betz. Fourth edition of *Water Analysis Manual* contains 20 pages of pictures and text describing procedures, calculations, chemicals required, etc.

Concrete. Portland Cement Association. 40-page booklet contains data related to structural layout of floors, stairs, walls, parking units, and roofs; installation of electric circuits, etc.; the numerous illustrations include some of textile mills.

Steel. Joseph T. Ryerson & Son, Inc. Bulletin describes company's new lead-bearing steels, which are said to improve machinability from 20 to 40%.

Centrifugal Pumps. Worthington Pump & Machinery Corp. Installation views and descriptive material concerning company's high-pressure, forged-steel-casing, centrifugal pumps for application to high-pressure steam generating units are contained in Bulletin W-319-B1A.

Paint. Aluminum Company of America. Booklet titled "15 years behind the Brush" tells advantages of aluminum paint for wood priming; included are numerous photographs of painted wooden surfaces, showing lasting qualities, etc., of aluminum paint.

Combustion Control. Leeds & Northrup Co. Catalog N-01-163 contains 32 pages of text and pictures describing company's "Metermax" combustion control system for boiler furnaces; several installation photographs are included.